DOCUMENT RESUME

ED 248 609 EA 017 148

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TITLE Grade Organization Patterns in Schools: A Review of the Research.
INSTITUTION Montgomery County Public Schools, Rockville, Md. Dept. of Educational Accountability.
PUB DATE Jan 83
NOTE 93p.; Attached exhibits may not reproduce well.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Academic Achievement; *Elementary Education; *Instructional Program Divisions; Junior High Schools; Literature Reviews; *Middle Schools; Parent Attitudes; Program Costs; School Attitudes; School Organization; Self Concept; Student Attitudes

ABSTRACT

Due to inconclusive data, inconsistent findings, and a lack of relevant empirical studies, no definite conclusions could be drawn in this research review of school grade organization effects. The review specifically sought research that could illuminate the effects of elementary and middle school grade organization on student achievement, parent and student satisfaction, program costs, and student attitudes and self-concept. The bulk of the document contains exhibits: (1) a letter from Phi Delta Kappa; (2) summaries of middle school research; (3) general articles on grade organization across all grades ("think" pieces, not empirical studies); (4) the executive summary of a report by Dr. John Riew, entitled "Intermediate vs. Middle Schools: An Analysis of the Relative Costs in the Montgomery County Public Schools"; and (5) summaries of selected research studies on the effects of different grade organization on students and parents. (DCS)

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GRADE ORGANIZATION PATTERNS IN SCHOOLS:

A REVIEW OF THE RESEARCH

EA 017 148

January, 1983

Edward Andrews
Superintendent of Schools

MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

GRADE ORGANIZATION PATTERNS IN SCHOOLS: A REVIEW OF THE RESEARCH

by

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GRADE ORGANIZATION: DOES IT MATTER?

Across the nation, within the Washington metropolitan area, and especially here in the Montgomery County Public Schools (MCPS), there are schools with a variety of grade organizations. There are elementary schools with PreK-6, K-6, K-3, K-5, K-8, and K-4 grade organizations. There are middle schools with 3-6, 4-6, 5-6, 5-8, 6-8, and 7-8 grade organizations. Considering the almost unlimited number of grade organizations it is only fair to ask, does it matter? Does the grade organization affect student learning (achievement), parent and student satisfaction, program costs, and the student's affective domain (e.g., his/her self-concept)?

The purpose of this brief paper is to summarize the relevant and available research on school grade organization and determine if the grade organization matters. Specifically, at the elementary and middle school levels, does grade organization affect student achievement, parent and student satisfaction, program costs, or the student's attitudes and self-concept?

Selected articles used in this summary are abstracted and attached. In some instances when an article seemed especially interesting, the complete article has been copied and attached. Also, where possible, relevant research findings from MCPS studies have been cited.

Before presenting our conclusions, an extremely important caveat must be expressed. Despite our best efforts to locate relevant research through both literature searches and telephone calls to colleagues, we have uncovered few articles presenting solid data, especially at the elementary level. An abundance of empirical research on grade organization simply does not exist. Most of the relevant literature we were able to uncover on grade organization is "expert" opinion. Our discussions with personnel in other districts indicate that our experience in searching the literature on school organization is not atypical. The letter from Phi Delta Kappa (see Exhibit 1), reflects what we were told by other educators whom we contacted.

OVERVIEW OF FINDINGS

Student Achievement

If research studies on the effects of middle schools were excluded, there would be a definite void of empirical research on grade organization and its effect on student achievement. Further, where the middle grades were focal, the findings--both nationally and for MCPS--do not conclusively support one structure over another (see Exhibit 2). In fact, the review of the literature found no study which empirically compared the effects of different elementary school grade structures (e.g., vs. K-2, 3-6, or K-3, 4-6) on student learning. At best, the literature provided expert opinion on the strengths and weaknesses of such alternatives (see Exhibit 3).

Parent and Student Satisfaction

At the elementary level, the review of the literature found no empirical studies which suggest that students or parents are more satisfied with one type of grade organization over some other type of grade organization. At the middle school level, the research is also inconclusive (see Exhibits 2 and 5).

Costs

Our review of the literature could find no empirical research supporting the notion that one type of grade organization is intrinsically more or less expensive than another type of grade organization. At the middle school level, a study conducted by DEA in 1981 is relevant. The DEA study, entitled Intermediate vs. Middle Schools: An Analysis of the Relative Costs in the Montgomery County Public Schools, found that how much a school costs is related to the school's utilization rate and special program features, not what grades the school contains. Middle schools in MCPS do cost more than intermediate or junior high schools, but it is because of program differences which are not dependent upon the schools' grade spans (for example, use of interdisciplinary resource teacher positions), not because of the grade organization level (see Exhibit 4).

Attitudes and Self-Concept

At the elementary level, the review of the literature found no empirical studies which suggest that student attitudes and self-concept are better because of one particular level of grade organization. At the middle school level, however, there are many empirical studies, yet once again, no overall trend can be established (see Exhibits 2 and 5).

CONCLUSION

To date, few conclusions can be drawn concerning the effects of different school organizational patterns. Despite numerous journal articles, studies, and dissertations which have addressed this topic, a lack of consistency in their findings exists, and there is no conclusive data supporting one grade level organization over another.

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EXHIBIT 1

Letter from Phi Delta Kappa

PHI DELTA KAPPA

A PROFESSIONAL EDUCATORS FRATERNITY DEDICATED TO THE PROMOTION AND IMPROVEMENT OF PUBLICLY SUPPORTED AND UNIVERSALLY AVAILABLE EDUCATION (FOUNDED 1906)

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CENTER ON EVALUATION, DEVELOPMENT AND RESEARCH

LARRY W. BARBER
Director

WILLARD R. DUCKETT
Coordinator

DEBORAH B. STROTHER
Assistant Editor

CEDR

December 29, 1982

Dr. Joy Frechtling, Director
Instructional Evaluation and Testing
Montgomery County Public Schools
Room 11, 850 Hungerford Drive
Rockville MD 20850

Dear Joy,

I am writing in response to your request for research information about the effect of grade level organization upon children's academic achievement and/or the effect upon parent and teacher satisfaction.

We performed a search of relevant literature and found virtually nothing that would, in my opinion, apply to this issue. I conducted a similar search of the literature two years ago, when I was the assistant superintendent in Eugene, Oregon, planning a reorganization of grade levels. We found no relevant research then, either.

What you find, if you read carefully, is the opinion of "experts" as to the best grade organization. Some "experts" predicate their opinion on "facts," some on experience, but it still boils down to opinion.

There does not appear to be any "best" grade organization. Logic alone will tell you there probably is not any "best" grade organization. Grade organization is really a political issue, not an educational issue, if for no other reason than that researchers have refused, and will continue to refuse, to research this topic. It seems that a board and superintendent would be best advised by you to understand that they are trying to make a political decision, not an educational decision. I am convinced that they would be better off being candid with the public about the type of decision they are faced with. The public already knows it anyway.

To try to add credibility to a political decision by finding a best way predicated upon research would be a misuse of both politics and research, something I am sure they would not want to do.

Eighth Street & Union Avenue, Box 789, Bloomington, Indiana 47402 Telephone 812/339-1156

I am sorry that we were unable to assist you in your request for information. If, in the future, you need assistance on an issue where there is research data, please don't hesitate to contact us. We will try to help.

Sincerely,

Larry W. Barber

LWB:ra

EXHIBIT 2

Summaries of Middle School Research

Wiles, J.W., and Thomason, S. Middle School Research 1968-1974: A Review of Substantial Studies

The purpose of this literature review of middle school research was to identify and summarize studies which sought to evaluate middle schools in a systematic way. Findings indicate little evidence by which to evaluate middle school education. Achievement, attitudes--i.e. of students toward school and of parents and teachers toward the middle school program; self-concept, and facilities were categories which the majority of these studies addressed. Additional areas were addressed. The absence of evidence is contributed to poor research procedures, a narrow and biased focus, and a failure to clearly define the subject of the study. There is a particular need for a systematic study to identify middle schools which follow the guidelines of middle school literature.

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Middle School Research 1968-1974: A Review of Substantial Studies

JON W. WILES
JULIA THOMASON

Findings indicate little evidence by which to evaluate middle school education. A systematic approach emphasizing qualities distinctive to middle school education is greatly needed.

AFTER nearly a decade of existence, the middle school has firmly established itself as a legitimate and acceptable model of intermediate education in America. While exact figures are unavailable due to the rapid growth of middle schools, somewhere between one-third and one-half of all intermediate schools in the United States now bear this label.

During the past six years, research studies have sought to evaluate the effectiveness of the middle school according to a variety of criteria. Most such research has been comparative in nature, as it should be, assessing the merits of the middle school in relation to other forms of intermediate education.

The purpose of the present review of middle school research was to identify and summarize studies of substance which sought to evaluate middle schools in a systematic way. Particular emphasis was given to comparative studies, and the search was restricted to sources readily available in the literature. A total of 27 studies were reviewed, of which 13 were found to be substantial in terms of research design, number of subjects assessed, and usable findings.

Research Limitations

Existing research on middle school education is of remarkably low quality. Most of the studies to date have been either the result of dissertation work or studies by junior high and middle school advocates. For this reason alone, the objectivity of such studies is questionable. This review utilizes seven dissertation studies and six school-sponsored research studies.

Another problem with existing research is that it comes from a limited number of states and regions of the country. Most of the existing middle school research has been done in Florida, New York, Pennsylvania, and Michigan, although this review utilizes studies from a total of seven states.

Finally, most existing research on the middle school has been concerned with only four areas: academic achievement, attitudes, self-concepts, and facilities. While these areas of concern will serve as organizers for providing a summary, it appears that other equally important questions have been ignored by researchers.

In particular, the studies reviewed were limited in value because they did not precisely define middle schools, because they did not consider how long such schools had been in existence, because they did not indicate how long pupils in such schools had experienced the middle school program, and because they did not indicate the reason for the establishment of such schools. All of these factors, we believe, would significantly affect the findings.

Research Findings

The findings of the studies below are limited to the category in which they are listed. Nearly all of the studies cited looked at other categories and had other findings as well as those mentioned.

Achievement—Six studies were found which looked at academic achievement in middle schools and compared such achievement to other forms of intermediate education. Most of the studies were based on national standardized tests. Three studies (Eholich and Murray, 1969, Glissmeyer, 1969, and Mooney, 1970) found no significant differences in achievement for middle schoolers when compared to equivalent students in other forms of intermediate education. One study (Trauschke, 1970) indicated more achievement for middle school students, but only after at least two years of treatment in middle schools. Two studies (Howell, 1969, and Case, 1970) found middle school pupils achieving higher in some academic areas than their counterparts in other forms of intermediate education.

Attitudes—Two kinds of attitudes were addressed by the studies reviewed: attitudes of students toward school and attitudes of parents and teachers toward the middle school program. Two studies (Eholich and Murray, 1969, and Wood, 1973) found no significant differences in student attitudes toward school. Three studies (Elie, 1970, Schoo, 1970, and Bryan and Erickson, 1970) found a significant difference in the positive attitudes middle schoolers had toward school. The Elie study also revealed a greater concern of middle school students with social and emotional questions.

Three studies (Howell, 1969, Trauschke, 1970, and Bryan and Erickson, 1970) found a significant difference in the positive attitudes of classroom teachers toward school in middle schools. The Bryan and Erickson study also found an increase in favorable attitude among parents toward the middle school program.

Self-Concept—In the area of self-concept and self-perception among students, four studies (Case, 1970; Eholich and Murray, 1969; Elie, 1970; and Trauschke, 1970) found no significant difference between middle school students and control students studied, while two studies (Schoo, 1970, and Soares, Soares, and Pumerantz, 1973) found middle school students having significantly *lowered* self-concepts when compared to students in other forms of intermediate education.

Facilities—Two studies (Davis, 1970; and Gatewood, 1970) looked at facilities in middle schools and other forms of intermediate education and found no significant differences.

Other Findings

The review of other studies on the middle school revealed some findings worthy of mention. A study by Krinsky and Pumerantz details that little is being done at present to prepare middle school teachers in colleges and universities. A study by Bough, McClure, and Sinks documents that less than one-fourth of middle schools in the midwest are including the fifth grade in middle schools despite the human growth and development rationale of the middle school. Other studies (Howell, 1969, and Mooney, 1970) indicate that middle schools have increased attendance and (Howell) lowered discipline problems.

After nearly ten years of existence, there is little evidence available by which to evaluate the merits of middle school education. This condition, however, is not unique to middle schools. Poor research procedures,

a narrow and biased focus, and the failure to clearly define the subject of study have contributed to this condition.

There is need for a systematic study of middle school education, emphasizing those qualities which are distinctive to middle school education. Particularly needed, at this time, is a method of identifying middle schools which, in their practices, follow the guidelines of the middle school literature.

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—JON W. WILES, *Assistant Professor of Education and* JULIA THOMASON, *Doctoral student, both at George Peabody College for Teachers, Nashville, Tennessee.*

Educational Research Service, Inc. Organization of the Middle Grades: A Summary of Research, 1983.

This Research Brief provides the historical background and theories behind the various approaches to the organization of the middle grades. It also summarizes the research on various factors considered important when determining grade organization. The following summary offers important information for use by local school officials and concerned persons when making decisions about the most effective and appropriate organization of the middle grades in their school systems.

Educational Research Service, Inc.
Organization of the Middle Grades: A Summary of Research 1153

SUMMARY AND CONCLUSIONS

This Research Brief provides the historical background and theories behind the various approaches to the organization of the middle grades. It also summarizes the research on various factors considered important when determining grade organization. The following summary offers important information for use by local school officials and concerned persons when making decisions about the most effective and appropriate organization of the middle grades in their school systems.

THE JUNIOR HIGH SCHOOL MOVEMENT

- Educators throughout the twentieth century grappled with the difficult task of identifying how best to house middle grade students in a school suited to their particular needs and interests. Junior high schools, which consisted of grades 7-8-9, were the first solution. Beginning in 1910, junior high schools grew in popularity and in numbers.
- Researchers found a wide range of motives regarding the development and functions of the junior high school. The earliest research studies indicated that the goals and functions of the junior high school were:
  - --to design programs that took into account individual differences among students;
  - --to introduce college material earlier;
  - --to provide educational opportunity;
  - --to relieve congestion in the school system;
  - --to use existing buildings better;
  - --to provide a gradual transition from elementary to high school;
  - --to offer some vocational education to pupils who would not remain in school until graduation; and
  - --to increase the retention of pupils.
- Several researchers concluded that the initial motivation for the establishment of the junior high school was to alleviate the crowded conditions in existing schools caused by the post-World War I population boom.
- Later research studies indicated that changes occurred in the aims of the junior high school. Researchers found that some of the original purposes, such as vocational training and rounding out the education of potential dropouts, no longer served as a justification for junior high schools. With the advent of child labor laws, compulsory attendance, and a different social order, the purposes of the junior high school evolved into providing an educational program that included a basic general education, guidance, and a strong exploratory aspect.
- Researchers found that the functions of the junior high school accepted by most

authorities emphasized the special needs of preadolescents and early adolescents and include the following:

--integration of the pupil's previous experience with education;
--exploration of the student's aptitudes and special talents;
--guidance;
--differentiation of opportunities for learning;
--socialization for participation in society; and
--articulation between elementary and high school.

- Early studies on the educational effectiveness of junior high schools indicated a wide variance in programs, practices, and grade organization among schools called junior high schools. Researchers also found a significant difference between the practices of junior high schools and the functions that educational theorists postulated.
- Evaluations of the functions of junior high schools showed that operating junior high schools failed to live up to the hopes and expectations of the junior high movement.
- Research that compared junior high schools to traditional kindergarten through 8th grade schools showed that early junior high schools did not compare favorably. By the end of the 1930's, however, the junior high school was at least equal to, and in some ways better than, the traditional school. A few of these studies showed that the junior high school was able to surpass these other schools in academic achievement and attitudes of the students.

THE MIDDLE SCHOOL MOVEMENT

- By the 1960's, educators were beginning to question whether the junior high school was the best answer to preadolescent and early adolescent education. They proposed a middle school with a grade organization of 5-8 or 6-8, combined with a more humanistic approach to the education of students.
- Middle school advocates put forth the following criticisms of the junior high school as negative reasons for establishing a middle school:

--junior high schools never achieved their original purposes;
--junior high schools evolved into a "cheap imitation" of the high school;
--the 9th grade continued to emphasize college preparation despite being housed with the 7th and 8th grades;
--junior high schools tended to encourage racial segregation by delaying the student's departure from neighborhood schools until the 7th grade;
--the academic structure was too departmentalized; and
--junior high schools adopted the social practices of high schools.

- In addition to the negative criticisms of junior high schools, many educators postulated positive reasons for establishing middle schools. These positive reasons assigned middle schools the following attributes:

--a grade pattern beginning with either the 5th or the 6th grade and ending with the 8th grade;

--a willing attitude on the part of the staff toward instructional experimentation, open classrooms, team teaching, utilization of multi-media teaching techniques, and student grouping by talent and interest rather than by age alone;

--an emphasis on individual instruction and guidance for each pupil;

--a focus on the education of the whole child, not just the intellect; and

--a program to help ease the transition between childhood and adolescence.

- But again, as with the development of the junior high school, much research indicated that the major impetus for the establishment of middle schools was to eliminate overcrowding caused by the post-World War II baby boom.
- The middle school movement, which began in the 1960's, was followed by a rapid growth in the number of middle schools toward the latter half of the decade.
- Research on the implementation of middle school goals showed a lack of standardization among operating middle schools reminiscent of that found during the junior high movement.
- Several national surveys of operating middle schools found that most middle schools failed to achieve the goals of the movement.
- A review of the studies that concentrated on middle schools in individual states confirmed the existence of a wide gap between the ideal and the real middle school. In almost every study, the researchers found that middle schools were not able to institute successfully the practices that middle school advocates determined the schools should adopt.
- In comparisons between middle school and traditional school organizations (except the junior high school), researchers found that the establishment of a middle school appeared to have little negative effect on student achievement or attitudes.
- Several studies indicated that the failure to train properly middle school teachers and administrators was the cause of the middle school's inability to meet its goals. One study found that teachers believed they needed more support from administrators if they were to achieve successfully the middle school program.

COMPARISONS BETWEEN JUNIOR HIGH SCHOOLS AND MIDDLE SCHOOLS

- The research on grade organization centered on whether the 7th through 9th grade junior high or the 4th, 5th, or 6th through 8th grade middle school was best suited to the intellectual, social, emotional, and physical needs of students in the middle grades.
- Both the junior high school and the middle school went beyond a particular organization of the grades, for each involved a particular educational approach.
- Advocates of junior high schools, in general, questioned the necessity of middle schools, for they believed that each of the educational reforms proposed for the middle school could easily be adopted by the well etablished junior high school.

- Middle school advocates believed just as strongly that middle schools offered not only a new grade organization but also a fresh approach to the education of pre-adolescents and early adolescents.
- Many researchers who looked at the reasons behind the establishment of junior high and middle schools concluded that the major reason for both types of grade organization was to eliminate overcrowding in elementary or high school and not to achieve educational goals.
- Educators who examined the research on the organization of the middle grades found it to suffer from several conceptual and methodological problems, such as a failure to identify the independent variables under investigation. This research often examined relationships that simply occurred by chance, not as a result of particular programs extant in the school.
- Surveys of junior high schools and middle schools indicated that, on a national basis, schools for the middle grades lacked organizational consistency.
- According to one of the latest surveys, 50 percent of the schools polled had middle grades organized in combinations of 5th, 6th, or 7th through 8th grades, with 42 percent using a 7th through 9th grade organization.
- Research on how well junior highs and middle schools achieved the goals that educational theorists established for each showed that neither was able to live up to the expectations of its advocates.
- For the most part, researchers who investigated junior high schools were disappointed with the actual operation of the schools.
- Likewise, researchers who examined middle schools expressed disappointment in the ability of these schools to institute a true middle school program. Many of these studies criticized the schools under review for being too much like the old junior high school and not enough like the ideal middle school.
- Researchers studying the development of junior high schools and middle schools found a similarity of goals in both types of schools.
- Researchers found that middle schools and junior high schools were more alike than different in regard to curriculum, organizational structure, instructional practices, administrative practices, staffing patterns, extra-curricular activities, elective courses, personnel, and co-curricular activies. There was some indication that middle schools, more than junior highs, used differentiated staffing, block and flexible scheduling, individualized instruction, team teaching, and innovation.
- Researchers who examined the middle school and junior high school to determine which was best for students in terms of academic achievement found little significant difference between the two. However, some studies of schools that were changed from a junior high school to a middle school indicated that the middle school contributed to higher achievement and created an improved academic learning environment.
- More than one-half of the studies comparing the attitudes and behavior of middle school and junior high school students as a function of the school they attended found no significant difference between the two schools.
- Those studies that identified differences found more positive student atti-

tudes among middle school students regarding school, themselves, other students, teachers, and administrators.

- One study designed to determine levels of motivation, task orientation, problem solving, and class membership indicated that students enrolling in a middle school for the first time seemed to adjust more rapidly and with less loss of self-concept than pupils entering a junior high school.
- Studies of teachers in middle schools and junior high schools found that teachers in middle schools tended to perform better and have a more positive attitude toward teaching.
- Two studies that examined the custodial pupil control attitudes of junior high and middle school teachers found that the middle school teachers were more humanistic toward student control and the middle school 6-7-8 grade combination was less custodial than junior high school.
- Researchers found little difference of opinion over the perception of functions of the middle grades between junior high and middle school teachers. However, there were differences in emphasis. Junior high schools emphasized vocational-avocational opportunities, economic responsibility, and transition from elementary to junior high; middle schools were more student centered and emphasized independent learning and development of academic skills.
- Most research found little difference in the attitudes of middle school and junior high principals toward the functions of the schools.
- A 1981 survey found differences between junior high and middle school principals pertaining to personal and professional characteristics.
- In general, middle school principals tended: to be younger in age, with fewer years experience; to be a former assistant principal at a high school or principal at an elementary or high school; to have an undergraduate major in elementary education or physical education; and to be certified in either secondary or elementary education.
- Junior high principals tended: to be former assistant principals at a middle level school or high school, to have an undergraduate major in social science, to have a doctorate degree, and to be certified in secondary education.
- Middle school principals tended to have more control in staffing and budget decisions and rated their personal prestige and self-fulfillment higher than junior high principals.
- Studies that examined the organizational climate of junior high and middle schools to find out which fostered a more open climate found few significant differences. A few studies where differences were found indicated that the middle school fostered a more open climate.
- One researcher who examined the organizational climate of departmentalized and non-departmentalized junior high and middle schools found that non-departmentalized junior high schools and middle schools were more open, positive, humanistic, and produced higher satisfaction among the community and the parents of students.

ORGANIZATION OF THE MIDDLE GRADES

- Surveys of school systems have shown a lack of organizational consistency among junior highs, middle schools, and other types of schools that confused the

issue concerning which type of grade arrangement provided the best combination for students.

- A recent survey found that 50 percent of schools polled were organized as 5th, 6th, or 7th through 8th grade; 42 percent were organized as 7th through 9th grade.
- Through the years, educators were unable to reach a consensus as to the most appropriate grade organization for the middle years of schooling. Some educators favored the junior high school's 7th-9th grade organization; some educators favored the middle school's 5th or 6th-8th grade; and some educators believed that grade organization per se was of less importance than the quality of the program offered in the school.
- Researchers who have examined different aspects relating to grade organization agreed that the quality of the school program was far more important than its grade organization.
- Researchers measuring the anxiety students experienced as a function of the grade organization of the schools they attended found no meaningful relationship between the pattern of school grade organization and the anxieties manifested by students. There was evidence that girls felt greater anxiety than boys in grades six through twelve. However, after the 8th grade, regardless of sex, anxiety tended to decrease in each successive grade.
- Research regarding 7th grade pupils indicated that grade organization had little effect upon their overall personal-social adjustment.
- One study that evaluated 7th-9th, 7th-8th, and 7th-12th grade organization to determine which had the greatest effect on the student's ability to adjust to problems found that the lowest number of student adjustment problems occurred in the 7th-9th grade organization, and the highest number of adjustment problems occurred in the 7th-8th grade schools.
- The results of several studies measuring the homogeneity of pupils within various grade combinations in terms of the level of maturity of the students led researchers to recommend grade couplets of 6th-7th and 9th-10th as the best grade arrangements for grouping students of similar maturational levels.
- One study examining the organizational climate of junior high schools, middle schools, and 7th-8th grade schools indicated that grade pattern had no significant effect on the organizational climate of the schools. The behavior of teachers did not vary significantly between the three types of school and the behavior of principals was not influenced by grade arrangement.
- Research evidence indicating an earlier onset of puberty led to the deduction that 6th graders more closely resembled 7th graders than elementary school pupils, and that 9th graders held more in common with high school students than with 8th graders.
- Other researchers emphasized the importance of protecting students from growing up too fast.
- In general, studies regarding the best placement of the 6th grade indicated that neither the academic achievement nor the attitudes of 6th grade students were adversely affected by being placed in any particular grade organization.
- One research study comparing junior highs to middle schools and elementary schools reached the conclusion that mid-

dle schools provided more appropriate programs for 6th grade pupils in terms of higher academic achievement in reading and arithmetic and more positive self-concepts than elementary schools.

- Research that tried to determine the most appropriate entry level for middle school tended to show that the 6th grade, rather than the 5th grade, was the best entry level. However, as one researcher found, placing 6th graders with 7th and 8th graders may promote a more rapid social maturation as the younger students adopt the habits and behavior of their elders.
- Studies of the maturity level of 9th graders indicated that these students more closely resembled 10th graders than 8th graders and belonged in a 9th through 12th grade high school.
- Surveys of principals and district administrators regarding the placement of the 9th grade found a substantial majority to believe that the 9th grade belonged with the high school rather than with the 7th and 8th grade.
- Research on the effects of grade organization on the academic achievement of 9th grade pupils showed that pupil achievement was not affected by the placement of 9th grade pupils in a junior high, a senior high, or a combination junior-senior high school.
- Two researchers believed that the necessity of introducing Carnegie units in the 9th grade meant that the 9th grade properly belonged with the senior high school.
- The attitudes of principals toward grade organization have changed over the years, with one of the latest surveys indicating a preference for the 6th through 8th grade organization. Earlier studies showed a preference for a 7th through 9th grade organization.
- Recent research shows that two-thirds of the middle schools were organized in a 6th through 8th grade combination.
- Recent research findings regarding brain growth indicate that the brain grows in stages, with growth spurts and plateau periods.
- During growth spurts corresponding to the middle grades five, six, nine, and 10, youngsters should find it easier to acquire new, higher level cognitive abilities. These appear to be the times for the introduction of new information and the development of new thinking skills.
- A plateau period occurs in middle grades seven and eight and seems to be the time when new skills should be fully integrated.
- If the implications derived from brain growth periodization are true, educators have new evidence to consider as they attempt to meet the special needs of adolescents during the middle grades.

GENERAL CONCLUSIONS

The following are some of the more important research findings for consideration by school officials, legislators, and other concerned persons in making decisions regarding grade organization and school programs for students in the middle grades. These conclusions have been generalized from an extensive volume of research varying in scope and quality and covering two-thirds of a century. For this reason, the summaries of the studies in this Research Brief should be examined before using these conclusions to make policy decisions regarding grade organization or school programs.

- Throughout the twentieth century, schools have been organized with any number of different grade arrangements in response to educational theory, administrative needs, or population pressures.
- Research has shown that through the years enrollment pressures have been a major factor in school organization in the middle grades.
- Current school age population trends indicate that enrollment pressures will continue to be a major consideration in school organization in the middle grades in many school systems.
- Current national school age population trends indicate major enrollment increases in the elementary grades accompanied by major enrollment decreases in the high school grades.
- Research on the mental, physical, emotional, and maturity levels of preadolescents and early adolescents indicates that educators have many factors to consider as they attempt to meet the special needs of the students of the middle grades.
- The junior high school was the first attempt to create a school suited to the special needs of these students. It grew in popularity for fifty years.
- In the 1960's, the middle school was conceived as a new opportunity to correct the perceived failings of the junior high school.
- Research indicated that neither the junior high nor the middle school was able to achieve the goals that educational theorists established for each.
- Researchers comparing junior high schools with middle schools have found them more alike than different. Some researchers have concluded that they are different in name and grade organization only.
- In general, grade organization appeared to have no detrimental effect on the academic achievement or attitudes of the students of the middle years.
- Some research evidence indicated that middle schools fostered a somewhat improved learning environment, fostered more positive student and teacher attitudes, and was more innovative.
- Research indicated that teachers in middle schools tended to perform better and have a more positive attitude toward teaching, and were more humanistic toward student control.
- Studies have shown little difference in the opinions of both teachers and principals in junior high schools and middle schools over their perceptions of the functions of the middle grades.
- Research indicated that grade organization had no significant effect on the organizational climate of the schools.
- In general, studies indicated that neither the academic achievement nor the attitudes of 6th grade students were adversely affected by being placed in any particular grade organization.
- Research that tried to determine the most appropriate entry level for the middle grade schools tended to show that the 6th grade, rather than the 5th grade, was the best entry level for maturational reasons.
- Research regarding 7th grade pupils indicated that grade organizational structure had little effect upon their overall personal-social adjustment.
- Research showed that the academic achievement of 9th grade pupils was not

affected by the grade organization of junior high, senior high, or a combination junior-senior high.

- Studies regarding the level of maturity of 9th graders indicated that 9th grade students more closely resembled 10th graders than 8th graders and belonged in a 9-12 school.
- Researchers have suggested that the necessity of introducing Carnegie units in the 9th grade indicated that the 9th grade belonged with the senior high school.
- Studies measuring the homogeneity of pupils within various grade combinations found that the grade couplets of 6th and 7th graders and 9th and 10th graders were best for grouping students of similar maturational levels.
- Surveys of principals and district administrators found a substantial majority to believe that the 9th grade belonged with the high school.
- Surveys of school systems have shown a lack of organizational consistency among junior high schools, middle schools, and other types of schools. A recent survey found that 50 percent of schools polled were organized as 5th, 6th or 7th through 8th grade and 42 percent were organized as 7th through 9th grade.
- Recent surveys showed that two-thirds of the schools called middle schools were organized as 6th through 8th grade.
- The latest survey of the opinions of principals regarding middle grade organization indicated their preference for a 6th through 8th grade organization.
- Researchers who examined different aspects relating to grade organization generally agreed that the quality of the school program was far more important than its grade organization.
- Recent research indicating brain growth spurts at the 6th and 9th grade levels and a plateau period at the 7th and 8th grade levels held new implications for curriculum and program development in the middle grades.

EXHIBIT 3

General Articles on Grade Organization
Across All Grades*

*These are generally "think pieces," not empirical studies

Caliste, E.R. Do School Organizational Patterns Make A Difference? Mimeographed Paper, 1975.

This study compared 12th grade students in an K-8 pattern with students in a K-3, 4-6 plan in an effort to determine the effect of school organizational patterns on learning and school adjustment. Findings include the following:

- achievement did not differ
- few differences were found with students' perception of school experiences
- no meaningful difference was found between students in stability of socioeconomic aspiration level
- no inhibitory effects of organization patterns in participation in extracurricular activities was found
- stability of performance within socioeconomic status classification was found

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Do School Organizational Patterns Make a Difference?

by Edward R. Caliste

Over the years many educators and educational organizations have taken a strong position on the best sequential grade aggregation that will better facilitate growth and development of children in the schools. Each group or organization defends its choice usually in terms of broad educational goals. The organizational patterns started in the late 1600 and early 1700 and continues in our present systems. There seems to be as much diversity of opinion now as existed over one hundred years ago as to the best selection or grouping by grades that will enhance both adjustment and learning. While millions of dollars are spent on the various grade patterns, it is also interesting to note that there is no significant research data to support the use of any particular pattern.

Basic Organizational Patterns from 1938-48

The National Education Research Bulletin(1) gave the following breakdown of school organizational patterns as they existed in 1948. The report was based on 1,372 city systems.

EA 007 831

Organizational Pattern	Percent
6-3-3	35
8-4	23
6-6	16
6-2-4	12
6-3-3-2	4
7-5	3
5-3-4-2	2
6-2-4-2	1
7-2-3	1
Others	3

It is very difficult to relate the diversity of organizational school patterns to the specificity of the needs of children as described by the developmental psychologist. The age range encompassing these organizational patterns would certainly include children with a wide range of emotional stability, physiological and psychological needs and values and levels of maturity.

School Organizational Patterns from 1948-60

Grade-level organizations continue in what educators might call a logical and orderly sequence with the final judgment being made by the decision making personnel in the school district. A very comprehensive

study of elementary school organizational patterns was conducted by the U. S. Office of Education(2); the results were published in 1960. Following are the findings of this study:

School organization, exclusive of publicly supported kindergarden programs, by U. S. and regional percentages.

Type of School Organization	Total U. S.	North-East	North Central	South	West
6-3-3	33.8%	31.0%	35.0%	30.0%	31.0%
6-2-4	16.4	10.7	12.5	15.2	18.2
6-6	14.6	14.6	19.0	10.3	15.0
7-5	3.5	5.3	.9	3.7	5.1
8-4	23.9	32.9	16.7	26.2	18.4
Other	7.8	5.5	6.9	8.6	12.3

The six year elementary school has maintained its stability from 1938 to 1960. However, there are no significant changes in the categories listed in the 1960 study when compared to the same categories in the 1938-48 study.

School Organizational Patterns from 1960-70

The most recent comprehensive study of grading patterns is contained in the text Administration of Public Education, third edition by Stephen J. Knezevich, 1975(3). The author reflects on a study conducted in the 1960 which yielded the following data:

U. S. Median	Percent
6-3-3	70
6-2-4	15
5-3-4	2
Other	10

The report also gives a breakdown of grading patterns by states. For example, in Minnesota 96% of the schools are on the 6-3-3 plan, 2% on the 6-2-4, and 2% not accounted for in the study. The District of Columbia has 100% of its schools on the 6-3-3 plan. However, the state of Arizona has only 9% of its schools on a 6-3-3 plan, 73% on the 6-2-4 plan and 18% on various other organizational patterns. Unfortunately, the study does not include a detailed analysis of other patterns such as those listed in the 1938-48 survey.

In order to determine the effect of school organizational patterns on learning and school adjustment, the author conducted a study which compared twelfth grade students who attended schools organized in a K-8 self contained structure with students who attended schools organized in a K-3, 4-6 self-contained classroom and then a 7-8 departmentalized organizational structure. The 7-8 departmentalized structure was based on the variables of achievement, stability of socioeconomic aspirational level as measured by eight and twelfth grade occupational choice and school adjustment over this period. All of the students attended ninth grade in one school and then one which used a 10-12 pattern. The author visited all

of the schools to verify the organizational patterns of each school. One school had multiple grade levels (4, 5, 6) in one classroom. The specific purposes of the study were as follows:

1) To compare twelfth grade GPA of K-8 students with twelfth grade GPA of 7-8 students in order to determine differences over a four year period.

2) To analyze the perception of school experiences peculiar to students with K-8 organizational background that are different from those with a 7-8 background.

3) To determine whether there is a stability of socioeconomic aspirational level as measured by occupational selection in ninth and twelfth grade.

4) To determine whether the participation in extra-curricular activities of pupils with a K-8 background are in proportion to those with a 7-8 background.

5) To determine the effects of SES on these variables.

Rationale for Matching

To accomplish these purposes, 22 K-8 pupils were matched with 22 7-8 pupils. Students were matched on the verbal-reasoning percentile rank of the DAT and socioeconomic status using Hollingshead's Index of Social Position

The verbal reasoning (VR) of the DAT is a series of verbal analogies designed to measure both verbal ability and deductive reasoning factors. Since these factors serve as a basis for school achievement and are also objective forms of measurement, the test was selected as a valid criteria for matching. The VR percentile information was obtained from the cumulative record during the first quarter of the ninth grade. Therefore, scores probably represent the achievement of these students before the influence of their ninth grade educational training, thus providing a more valid basis for measuring the influence of additional school learning on these students.

Socioeconomic status was selected because it is a subjective measure of status, life style and values that influence both school achievement and school adjustment. School adjustment was measured by a student questionnaire developed over a four month period using twenty-six items from The Mooney Problem Checklist. This information was cross-validated by a structured student interview.

Summary and Conclusions

The results of the study showed that (1) achievement as measured by GPA was not statistically significant on the T-test at the .05 level for this population; (2) there were few differences between seniors with K-8 and 7-8 school organizational background experience; (When differences were found, they were more related to SES and sex rather than trends that could

be attributable to previous school organizational structure); (3) there was no meaningful difference between K-8 and 7-8 students in stability of socioeconomic aspirational level; (4) there was no inhibitory effects of organizational school patterns in participation in extracurricular activities; (5) there was stability of performance within each SES classificaiton.

Some specific findings which might interest educators are as follows:

1) A total of 25 students (12 K-8 and 13 7-8) expressed a need for more assistance in developing good study habits.

2) A total of 25 students (15 K-8 and 10 7-8) expressed a desire for assistance in outlining school work or taking notes in class.

3) 7-8 students spent two hours more per week studying school work than K-8 students. However, there was no significant difference in achievement when SES and intelligence were measured by verbal reasoning percentile rank of the DAT.

4) 33 students (18 K-8 and 15 7-8) indicated that they did not have a strategy or system for studying school work. They simply read and memorized the material for the following day.

5) An assumption of departmentalization (7-8 students) was that the development of interpersonal skills as a result of mixing would improve socialization. However, more 7-8 students (15) than K-8 students (10) indicated a need for assistance in developing poor relationships.

Implications for Education

Since school organizational patterns showed no significant difference in this study in achievement, in stability of socioeconomic aspirational level or in participation in extracurricular activities and since stability of performance exist within each SES classification; the current emphasis on school organizational grade patterns may be misleading if the goal of education is achievement and school adjustment. However, a careful observation of the specific findings indicate that those goals may better be achieved by:

1) Helping students to acquire a method of studying and preparing for academic challenges such as outlining school subjects by categories and subcategories of knowledge and by indicating the relevancy of those categories to the concepts and principles being disseminated.

2) Providing more school supervision of individual assignments or supervised independent study rather than giving home assignments.

3) Identifying the learning styles of children and teaching the use of intellectual tools in developing strategies that are appropriate to problem solving situations.

4) Teaching skills that will facilitate personal-social adjustment.

If we are going to provide students with some continuity in their educational training, we might very well improve the educational process by looking at other factors; such as, teacher variables if effective communication, types of programs offered, the learning styles of children and factors contributing to an increase in the level of motivation through relevancy of materials or content.

Hess, F., and others. "Organization of Schools: An Overview of Alternative Grade Level Arrangements." In Issues in Education: A Documental Look at Seven Current Topics. Mimeographed paper, 1978.

The authors discuss historical changes in the grade-level organization of schools dealing with variations that have emerged at the elementary, middle, junior high, and senior high levels. Several pages (see attached) deal specifically with variants at the elementary level. Attention is given to the K-3, 4-6, and the K-2, 3-5, plans indicating where these structures appear advantageous. Mainly, they find these systems to be useful (1) where duplication of expensive facilities can be minimized through the inclusion of small numbers of closely associated grades in single buildings, and (2) the truncated grade range allows concentration and effective utilization of expert staff. These conclusions as offered are the opinions of the authors based on their experience and/or reading of other sources. No empirical data are, however, presented in the chapter to support the claims of the authors.

school populations necessitated division of the unified, K-12 structures into more manageable units.

In the 1970's, the dramatic growth of population which had characterized the previous 150 years slowed dramatically. As national population levels stabilized, school populations declined. In some places, the drop was more marked than in others, yet the trend appeared to be general. The new pattern necessitated a move toward consolidation of grade levels and facilities first in elementary education, then in the other two levels.[9]

Because general discussion of the full range of these groupings is cumbersome and often confusing, treatments undertaken below will proceed on an individual basis. Elementary schools will be discussed first, with middle and senior high schools following.

Organization Levels in Elementary Education

In one sense, all of American public education grew out of elementary schools, since the one room schoolhouse was fundamentally an elementary institution. By 1818, separate primary schools with four grade levels were functioning in Boston for pupils aged four to seven. The four classes represented groups of increasing proficiency in reading and spelling.[10] With the development of the Prussian system from an original nine into thirteen grades, interest in primary education came to focus on the first nine levels (including kindergarten), with the remaining four being left to secondary education. The result was the traditional Eight-Four plan.[11]

A heavy burden was placed on primary education by the Eight-Four plan. The Elementary section of this system developed out of the first nine levels of the Prussian system of organization. Under the Prussian concept, a child's schooling began at age six and ended at age fourteen, when he was considered old enough to begin earning a living.[12] Therefore, in the initial levels, pupils were expected to acquire proficiencies in basic languages and mathematics

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along with introductions to geography, history, and science. The burden on the elementary levels of the American system was made heavier by the changing sizes of student populations. Initially, many students did not continue their educations past the eighth grade. Sizable numbers would quit at or between any of the various levels. Secondary school populations were usually the committed, homogeneous remainder. Education for all this really came to mean primary education for all.[13]

Variations quickly developed on the Eight-Four Plan, yet this traditional model of American school organization has survived in many places. It continues to flourish in rural areas, where a more conservative approach to education holds sway; and in states where separate administrative units for elementary education exist. The Plan has also found support from psychologists who believe that thirteen and fourteen year old children do not mature as rapidly as most psychologists contend. Other proponents have argued from a sociological standpoint, that the seventh grader is too young to be influenced by the maturity level of ninth grade students.[14]

All of the alternatives which have been developed into the Eight-Four plan have restricted the range of elementary education. An early variant separated grades seven and eight from the first six. Supporters of this approach argued that thirteen and fourteen year old students are in a period of development where a more varied program, including fewer repetitious subjects should be provided. In the early decades of the twentieth century it was also believed that more students would continue in school for longer periods if a break in organization came at some point other than age fourteen, the point traditionally regarded as the end of schooling by large segments of the adult population.[15]

The initial movement to remove grades seven and eight from elementary school organizations was thus largely based on hazy notions of human motivation as well as practical ideas. Later work in the field of child development added greater impetus to this pattern.

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The elementary segment of the Eight-Four plan, like its Prussian counterpart, had focused on the schooling of the individual for adult life. It had been adopted for use in America, although conditions in the United States bore little resemblance to those in Central Europe. During the early twentieth century, child development studies gradually shifted the focus of elementary education from the total schooling of the individual to the instruction of children. Within this context, individuals who had reached puberty were no longer children and were thus removed from childrens' education. The close of elementary education was accordingly moved from the eighth to the sixth grade levels.[16] The impact of the new interest in child development dramatically changed the organization of elementary education. Indeed, it may have created elementary education as we know it today. In areas where the K-6 approach took hold, primary education shifted from the inculcation of the individual with all of the skills necessary for life, to concern with total child development. The accent on instruction in basic subject areas remained, yet with it came a concern for the child as a special type of individual, one with emotional and mental needs which set it apart from the general population.[17] A number of criticisms have been leveled at organizations including K-6 elementary schools. Yet most of these comments have focused on the junior high, rather than the primary institutions.[18]

The division of the K-8 elementary school has continued beyond the move to K-6 setups. One popular variant is the K-3 plan, involving the building of several such schools in various neighborhoods, to provide only primary experiences for the youngest children. After grade three, the pupils are transferred to larger, intermediate schools for levels four through six. This particular type of structure can be less expensive, since larger facilities which young children do not necessarily need, such as cafeterias, gymnasiums and auditoriums need not be duplicated in each primary building, but may be located in the larger, intermediate school.[19]

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Another organizational alternative places a preschool year with grades K-2 in one building and a second four year block, including grades 3-5, in another. This structure provides maximum concentration on the needs of the very youngest children within the context of individual neighborhoods. The second level schools can be somewhat farther removed from the home and serves larger geographical areas.[20]

The K-2, 3-5 system also provides economic and institutional advantages. Duplication of expensive facilities is minimized through the inclusion of small numbers of closely associated grades in single buildings. Expert staff members can also be attracted and effectively utilized in such specialized institutions.[21]

Another important factor favoring the K-2, 3-5 setup was the decline in school populations which began to make itself felt in the 1970's. The stabilization of national population levels stimulated a widespread decrease in numbers of elementary pupils. The trend necessitated consolidation of grade levels and facilities at the elementary level and made more urgent the implementation of plans such as the K-2, 3-5 setup.[22]

At the extreme end of the elementary organizational continuum there remains the ungraded school, a plan which provides for pupil progress through various achievement groups, rather than from grade to grade. The problems associated with this approach appear to be numerous. Retention rates are unknown. A student could conceivably spend from five to ten years in school before entering seventh grade. This type of institution is still in its infancy, and must be considered experimental rather than practical.[23]

There are numerous other patterns in elementary school organizations. Of special importance in recent years has been the growth of kindergarten and pre-school levels. Always a part of the German system, kindergarten caught on quickly in American urban areas, but more slowly in the countryside. The period since 1940 has seen the acceleration of this level to rural areas. The advent of the 1960's witnessed a rapid growth of pre-school education in

urban and suburban locations. A subsequent rise of pre-school education in the rest of the nation would not seem far off.[24]

The pluralistic nature of American education has encouraged the development of varied forms of elementary school organization. Studies have shown that each of a number of varieties of educational structure have received considerable support. In 1960, almost one fourth of all elementary schools (23.9%) included grade levels K-8, while almost two thirds (65%) included grade levels K-6. The latter approach, with all of its proponents, appeared to have gained the acceptance of most of the population, although the K-8 plan still held the allegiance of a sizable minority. At the time of the survey, other variations such as the K-3 and K-2 structures prevailed in less than 8% of the Nation's school districts.[25]

The years since 1960 have since changed the organizational patterns of elementary schools. Statistics now show that programs such as the K-3 and K-2 approaches are gaining acceptance. By 1971, the percentage of all schools using such organizations had surpassed 12%. (It should be remembered, however, that the mathematics involved here can overrate the significance of these statistics, since each K-6 school divided will produce at least two of the smaller institutions). The smaller primary school structures seem to have gained largely at the expense of the K-6 plan, since the percentage of schools using the K-8 approach has decreased only slightly during the intervening decade.[26] The organization of elementary schools seems to be related to the variety of geographical and sociological settings involved. The K-8 plan, for one reason or another, is apparently well-suited to rural areas.

An important statistical trend in the development of elementary school organization has been the downward extension of primary instruction to include kindergarten and pre-school. Already alluded to above, this trend began with the dramatic extension of kindergarten classes during the 1940's. By 1958,

70.4% of all urban areas maintained public kindergartens. At the same time, however, only 4.5% of urban communities maintained pre-school programs. Rural systems continued to lag in the extension of kindergarten, although, by 1960, over one third of all rural districts supported such classes.[27] By the 1970's, increased interest in pre first grade education had increased enrollments in both types of classes. Almost 90% of all urban areas maintained kindergartens while over 15% subsidized pre-school programs. The proportion of rural communities maintaining kindergartens had grown more slowly, but did exceed one third.[28]

2. Organization of Middle Schools

Unlike the elementary school, which was part of American education from its very beginnings, the middle school has been a late arrival on the educational scene. Its predecessors were the junior high schools of the early twentieth century. These institutions, alluded to in the above discussion of elementary organization, grew out of a belief that pupils in grades seven and eight had academic and emotional needs which differed from those of younger students. In many ways, the junior high school was designed to facilitate the transition from childhood to adolescence.[29] The institution still has its adherents, although its popularity has greatly lessened.[30]

The middle school emerged from an increasing dissatisfaction with the junior high school. During the mid twentieth century, critics of the latter institution argued that it simply copied the departmentalization, subject-centered curriculum, and sophisticated student activities of the senior high school. They claimed that the junior high school served no distinctive purpose. Some even suggested that grades seven and eight might be amalgamated into the senior high school.[31] In this context the middle school was advanced as an alternative institution which could adequately meet the unique educational,

Johnson, H.M. "Grade Organization: A Decision Based on Local District Needs and Resources." NASSP Bulletin, (March 1982), pp. 105-113.

This article is a review of grade organization, its recent trends, and factors to consider in examining changes at the district level. The author concludes that there is no best form of grade organization which results in superior student achievement or social adjustment. He suggests that the multiple definitions of middle school contribute to the lack of substantial evidence to support any single grade level configuration. Further, research on grade comparisons, brain development (intellectual growth) and school size have not yielded conclusive results. Finally, a telephone survey conducted in 1980 by the author suggests that factors other than student outcome play an important role. Specifically, he reports that decisions to change grade organization were based on facility availability and adequacy. A need to create racially integrated enrollment patterns also was a major factor cited by telephone contacts.

Concluding that there is a lack of evidence to support any one form of grade organization, the author suggests that school districts select a grade organization format that best fits with local preferences and facility availability. Any organizational plan can be made to work; however, good articulation between school levels and careful planning of programs are required for continuity in learning.

Grade Organization: A Decision Based on Local District Needs and Resources

Howard M. Johnson

In the absence of research evidence favoring a particular form of grade organization, says this writer, it is entirely reasonable that school districts select the format that best fits with local facility and curricular configurations.

Grade organization has long been a subject of discussion in the nation's school districts. Ever since the Prussian system of graded schools became an accepted pattern of schooling in the United States, school districts have debated the merits of K-6/7-9/10-12, K-8/9-12, K-6/7-12, and other forms of grade organization. The middle school movement of the early 1960s intensified this debate and served particularly as a basis for reexamining the need for some kind of transition experience between the elementary and senior high school years.

Update and Review

This review of grade organization is intended as an update on recent trends as used in the schools and as a review of factors to consider in examining changes at the district level. Much of the opinion expressed here is based on conversations with persons recently involved in some type of districtwide change in grade organization.

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A recent telephone survey of principals and other administrators in those districts was used in collecting information, and a review of recent literature on the subject of grade organization proved helpful in developing the guidelines suggested for use at the district level. The intent here is to provide useful background information for principals who may find themselves involved in examining grade organization change in their own districts.

Recent Trends in Grade Organization

The four-year high school, preceded by a K-8 or 1-8 elementary school, is clearly the traditional pattern for education in the United States. In 1910, the date marking the beginning of the junior high school movement, at least 95 percent of all secondary schools housed grades 9-12. The other five percent were split between five and six-year high schools. The junior high school movement was actually rather slow to catch on; and, even by 1920, less than one half of one percent of all secondary schools were classified as separate junior high schools. By 1970-71, the separate junior high schools numbered 7,750, or 31.4 percent of all secondary schools.

Most of the junior high schools started in the period prior to 1970 housed grades 7-9. This, of course, meant a trend away from the traditional four-year high school. Many school districts during this 1920-70 period adopted the K-6/7-9/10-12 format of grade organization. Only in recent years, with the increased interest in middle schools, have we seen a reversal in this trend. Between 1970 and 1977, the number of middle schools more than doubled. By 1977, there were 4,180 middle schools, as compared with 7,434 junior high schools.

Continuation of this conversion of junior high schools to middle schools has resulted in a reversal of the earlier trend away from the four-year high school. While precise figures for the 1980-81 school year are not available, it is estimated that more than 60 percent of the approximately 11,500 senior high schools house grades 9-12. The declining school enrollments of recent years, along with the increased acceptance of middle schools, seem to have accelerated this return to the four-year high school.

Research Evidence on Grade Organization

One reason for the range of grade organization patterns in U.S. school districts is the lack of evidence that any single form of grade organization is best for all students or school districts. A major argument of this writer is that, in the absence of generalized research evidence favoring a particular form of grade organization, it is entirely reasonable that school districts select a grade organization format that best fits with local facility and curricular configurations. Before suggesting specific guidelines to be used in this matching process at the local district level, it is well to examine briefly re-

sults of research efforts designed to establish the relative merits of particular grade organization formats.

One such research focus involved a comparison of middle schools with junior highs and other forms of transition education. Several studies have attempted to compare schools with different grade structures on such variables as student achievement, attitudes, and self-concept. After reviewing studies conducted prior to 1975, Wiles and Thompson concluded:

> After 10 years of existence, there is little evidence available by which to evaluate the merits of middle school education. This condition, however, is not unique to middle schools. Poor research procedures, a narrow and biased focus, and failure to clearly define the subject of study have contributed to this condition.[1]

Research on middle schools conducted since 1975 has added little or nothing to the evidence that any single format of transition education is superior to all others. Most generally, the comparative studies, whether concerned with achievement or attitude measures, have shown no significant difference between various grade level configurations under investigation. Part of this problem stems from the multiple definitions of middle school. Some have defined the middle school as consisting of a particular set of grade levels, others view the middle school as having a certain combination of curricular features such as interdisciplinary studies, basic skills emphasis, or de-emphasis on competitive athletics. Even if there were distinct and generalizable advantages for some particular grade level configuration, it is doubtful that these differences could be demonstrated due to the conflicts in middle school definition and the usual problems involved in establishing and maintaining throughout the research period a similarity in all relevant conditions except grade organization.

From what we know now, it is difficult to argue for or against the middle school or junior high school based on grade organization alone. Most experts seem to agree that significant results are not likely to be discovered by simply comparing 5-8, 6-8, 7-8, or 7-9 grade organizations. If there are important differences to be identified, they are most likely to be tied to programmatic differences.

A similar void exists in the comparison of 9-12 and 10-12 senior high schools. Most of the so-called research comparing placement of the ninth grade (in the 7-9 junior high versus the 9-12 senior high) has been based on opinions of students, teachers, and/or administrators; often the research is based on demonstrated characteristics of students at particular age levels rather than actual impact of alternative schooling formats.

One such study concluded that ninth graders should be in the senior high school simply because they are more like tenth graders in intellectual

1. Jon W. Wiles and Julia Thomason, "Middle School Research 1968-1974: A Review of Substantial Studies," *Educational Leadership*, March 1975, pp. 422-423

ability and emotional maturity.[2] Studies of this sort may add interesting insights into the developmental characteristics of youth, but they hardly represent compelling evidence for the superiority of one particular grade level organization. Similarly, the research indicating periods of more rapid brain development and intellectual growth (e.g., at ages 10-11 and 14-15) may suggest different types of educational programs for students in particular age ranges; but, because of the sizable variance in growth patterns among students and particularly between boys and girls, this research should probably not be used in a prescriptive manner for determining grade organization patterns in the schools.[3]

Research on school size can sometimes influence the grade organization selected in a particular school district. Here again, however, there exists no ideal size for schools at either the elementary or secondary levels. At the elementary level, expert opinion seems to support a minimum of 250-300 students. Schools with lesser enrollments are hard pressed to provide the types of grouping and special services desired in most communities. Research on school size at the secondary level has been more extensive than at the elementary level, but the results are no more conclusive.

Most research is again based on expert opinion rather than carefully controlled experimentation. Most of this opinion seems to support absolute minimums of 300 and 400 students at the junior and senior high school levels. Where student populations are distributed in a manner justifying larger schools, this is considered advisable. The larger schools, however, are preferred more on the basis of expanded curricular opportunities than on proven gains in student achievement. With respect to maximum sizes on the secondary school level, there is no research evidence that schools as large as 2,000 to 3,000 are harmful to students; however, most researchers studying the question of school size feel that secondary schools in the 800 to 1,500 range are more desirable. They point out that the larger schools have proved to be no more efficient and seem less successful in encouraging high rates of participation in the activities offered.

In the absence of compelling research guidelines on either school grade organization or school size, local districts are left to make grade organization decisions on the basis of local preferences and facility availability. There is plenty of room for local option in making decisions on these matters, and most districts faced with the need and desire to make a change of some kind will

2. Norman K. Myers, *Physical, Intellectual, Emotional, and Social Maturity Levels of Eighth, Ninth, and Tenth Grade Students with Implications for School Grade Organizations*. ERIC (ED043132), p. 177.

3. Herman T. Epstein, "Growth Spurts During Brain Development: Implications for Educational Policy," in *Education and The Brain*, Seventy-seventh Yearbook of the National Society for the Study of Education, ed. Chall and Mirsky (Chicago: University of Chicago Press, 1978).

want to consider a variety of factors in arriving at the appropriate model for their particular circumstance.

Grade Organization Change in Selected School Districts

The current K-12 public school enrollment of 42.5 million represents a decline of almost three million since 1970. This decline, which has been concentrated in the central city and inner suburban rings of our large metropolitan areas, has been accompanied by considerable pressures for change in grade organization.

As a means of determining strategies used in coping with both the enrollment decline and the pressures for organizational adjustment, this writer made telephone contact with administrative personnel in a number of districts that were known to have implemented a change in grade organization within the past few years.[4] Personnel in each of these districts were asked about reasons for their recent change and the extent to which they had attempted to evaluate the results of the change. Materials describing both the previous and current grade organizations used in these districts were also requested and examined as part of the survey.

Of the 31 districts included in this telephone survey, almost all indicated that facility availability and adequacy played a major part in the decision to change. In three of the districts, facility availability was coupled with the desire to create more racially integrated enrollment patterns. Even the few respondents who indicated their district had a clear preference for a particular type of middle school pattern indicated that the grade organization change probably could not have taken place were it not for a good fit between student numbers and facility availability.

In most cases, the decision to change grade organization was made in a manner that permitted the maximum number of students to utilize more up-to-date and specialized facilities. As an example, moving ninth grade into a high school building was often viewed as a means of upgrading elective programs, particularly in the science, music, and business education areas.

Several respondents felt that, while the decision to change grade organization was made on other than strictly curricular grounds, it served as a time to accomplish needed curricular changes for certain groups of students. In the most frequent case of districts adopting a middle school and a four or five-year senior high, respondents mentioned the importance of lesser emphasis on competitive athletics for students in the 11 to 14 age group, a more interdisciplinary or current problems emphasis in the middle school years, and the establishment of better teacher-student

4. A more complete report on this telephone survey, including a list of the districts participating, can be obtained from the Bureau of School Service and Research, University of Washington. The report was completed in August 1980, under contract with the Bellevue Public Schools, Bellevue, Wash. The Bellevue School District is utilizing the survey findings as a basis for its own study of alternative forms of grade organization.

relationships through use of either block scheduling or teacher-counselor programs.

Guidelines for Grade Organization Change in Schools

Up to this point, the writer has documented a wide variance in grade organization in U.S. schools and has indicated the likely continuation of pressure for grade organization change, particularly during this period of enrollment decline in urban and suburban school systems. We have also reviewed a few of the results obtained in a telephone survey of selected districts involved in recent grade organization changes.

Based on a more detailed review of viewpoints expressed by these personnel involved in implementing changes of grade organization at the local district level, several suggestions or guidelines have been developed. These should prove helpful to others involved in the organizational change process. It is especially important that school principals and other administrators involved in guiding the change process in their local districts utilize these guidelines as part of the planning process.

1. *Begin the planning process and the identification of alternatives with a clear understanding about what research says (and does not say) about grade organization.*

Planning involves the setting of goals and objectives and the identification of "work maps" showing how these goals and objectives are to be accomplished.[5] The development of work maps is generally accomplished by examining the relative merits of a variety of possible means for attaining organizational goals. With this in mind, it is extremely important that the planning group not be limited in its examination of alternatives. As seen earlier, past research on grade organization has not identified any set format as being best for all situations; hence, it is important that a wide variety of grade organizations be considered in planning at the local district level.

One need only look at the wide variety of grade organization patterns to understand that local district circumstances can dictate some unusual but apparently successful grade organization arrangements. Several large urban districts included in the telephone survey utilized two or more organizational arrangements within a single district. Several districts in California have adopted a K-7/8-12 format with apparent success. While personnel in certain of these districts indicated a preference for returning to a format involving some standard transition or middle school step, they indicated that the present arrangement made sense in terms of their declining enrollments, facility availability, and patron preferences.

In at least one of these cases, the decision favoring the unusual K-7/8-12 seemed to turn on the greater

5. Paul Hersey and Kenneth H. Blanchard, *Management of Organizational Behavior*, 2d ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1972), p. 4.

political viability of closing junior high schools rather than the neighborhood elementary schools. Here again, in the absence of proven research preferences, local circumstances will generally play an important part in the eventual selection process.

2. *Any change in grade organization should be planned well in advance of the actual change and this change should be designed to accomplish needed curricular and staff development improvements.*

Just because research does not direct us to a particular grade organization format as being preferred in all districts, this does not mean that changes in grade organization should not be made with a definite eye to meeting curricular improvements at the local level. Gordon Vars, a leading advocate of improved education in the transition years between elementary and high school, recommends that the change itself be recognized as an opportunity to accomplish other needs:

> Any shake-up of an established pattern provides an excellent opportunity to make fundamental improvements. Whether we regard the change from junior high to the middle school as a revolution, a reformation, or a colossal mistake, let us seize this golden opportunity to make a fresh approach toward goals we have always held for schools for young adolescents, however they are organized and whatever they are called.[6]

This need to use grade organization change as a vehicle for accomplishing curricular and staff development needs of the local district is particularly important in this period of limited staff mobility. All of us, administrators included, can profit occasionally from a new challenge; and grade organization change in the school district is one useful vehicle for establishing such a challenge or renewal in our professional assignment.

3. *A successful shift in grade organization is more likely when special attention is directed to the needs of new groups of students to be accommodated in a school.*

Failure to make provisions for new groups of students was most often mentioned by those included in the telephone interviews as a problem area in their district's recent change in grade organization. As an example, one district administrator spoke of adding the ninth grade to the senior high school level without incorporating suitable changes in graduation requirements and course offerings. Another respondent mentioned the need for more teacher-student counseling, at least in the initial years following a change in grade organization.

Those persons involved in the planning process are well advised to plan special orientation programs for new students and their parents and to alert staff members to this need for carefully monitoring possible adjust-

6. Gordon F. Vars, "Junior High or Middle School: Which is Best for the Education of Young Adolescents?" *The High School Journal*, December 1966, p. 113.

ment problems of new groups of students. Student-to-student sponsorship and informal teacher-student discussion sessions may prove helpful in meeting this orientation need.

School district administrators must also be mindful of the needs of teachers involved in building shifts. In some states, it is important to check on possible certification problems associated with the shift of grade level teaching assignment. It is always advisable to involve teachers well in advance of any planned change in grade organization. It is often helpful, though not always possible, to give staff members the opportunity to visit programs of a similar type in nearby districts. This encourages a greater sense of confidence by the staff and makes it more likely that the best parts of these other programs will be incorporated into the planning process.

4. *Regardless of the type of grade organization change under consideration, all staff members must be encouraged to work toward an articulated K-12 program.*

It is unlikely that any form of school organization that has different levels of schooling will escape articulation problems. These problems will be overcome only through diligent monitoring by school administrators and concerned teachers. All too often, differences in school philosophy or method of instruction at the several school levels get in the way of an articulated sequence of instruction. On occasion, the selection of instructional materials has been known to frustrate rather than enhance the sequencing of learning experiences for students. Whatever the form of grade organization, these needs for good articulation must be recognized.

Some districts have employed vertical curriculum planning committees to good advantage. Teacher exchange programs whereby junior and senior high school teachers switch roles for a semester or an entire school year can also be helpful. Even exchanging classroom teaching materials or testing procedures can aid in the maintenance of an articulated program. None of these suggestions is likely to accomplish the desired end without strong administrative leadership. With the trend toward fewer curriculum personnel in many districts, this leadership is likely to fall on school principals at the different school levels. Good communication of both administrators and teachers at these different school levels is absolutely essential in assuring continuity and articulation of instructional programs.

5. *The rationale for any change in grade organization should be carefully communicated to both parents and the general public.*

While the decision to change grade organization in a given school district is likely to be based on analysis of a complex set of factors (including current and projected enrollments, facility configurations, financial resources, staff and community preferences, and curricular and staff development needs), it is also true that the successful implementation of any planned change will, at least to some extent,

depend on community acceptance. Patrons in most districts still play some role in determining the financing of schools at the local level; they certainly determine the quality of communication and support given to selected school programs. Recognizing these influences, it is incumbent upon school administrators and board members to maintain very open and honest communication about the need to change school organization patterns.

The rationale for a given change in grade organization often will be based on declining enrollments and a more efficient use of available facilities. Even the most vocal critics will recognize that certain adjustments in school operation are sometimes required in order to achieve a more responsible use of public dollars. If these critics can see that several viable alternatives were considered in the planning process, they are more likely to relax their opposition to particular elements of the overall plan.

It is also important that the public realize that the plan for changing grade organization is based on a careful assessment of most likely futures of the district. In this regard, it is especially important that the recommended change be based on the best possible enrollment and financial projections. Patrons must have the assurance that the district will not be changing organization each time an enrollment shift occurs, as such frequent changes remove any hope for a stable operating system. Most experts on planned change point to this need for control and stability as a means of consolidating gains associated with the change process.

Conclusion

It seems clear, both from a review of research literature and a sampling of opinions from districts recently involved in grade organization change, that there is no best form of grade organization. No single grade organization format has been shown to result in superior student achievement or social adjustment. The grade sequencing used in a particular school district will, therefore, depend upon a variety of local circumstances, including the location, size, and quality of existing facilities, current and projected enrollment patterns, and community and staff expectations. By following the guidelines suggested above, each local school district can achieve a grade organization that is most compatible with its own local circumstances and that achieves the stability needed for goal accomplishment within the organization. With appropriate planning and operating procedures, it is even possible, though not preferred, to function with differing grade organization patterns within a single district. A district's choice of 6-3-3, 8-4, 4-4-4 is probably not as important as what happens across the hyphens. Any organizational plan can be made to work; but good articulation between school levels as well as careful planning of programs within each school level are required to assure needed continuity of learning activities.

Morphet, E., Johns, R., Reller, T. Educational Organization and Administration, Prentice-Hall, Inc., 1967.

Chapter 12, entitled Organization of Schools for Instructional Purposes, reviews the authors' merits of different plans of school organization. Such plans include:

- eight-four
- six-three-three
- four-four-four-four
- four-four-three-three-two

It is concluded that school organization should be determined by the purpose and needs of the area served by the school district.

of the area served by the school district. A couple of decades ago, one community with two elementary school plants, concerned about the growth of all of its children and the development of understanding between the children of long-time residents and those of the new "dust bowl" and ethnic group residents, anxious to avoid an "across the tracks" group, established one K-3 school for the kindergarten through the third grade and another for grades 4–6. It did this although it thereby reduced the possibility that each school might become a "neighborhood" school. Two K-6 schools would have been the more usual and more easily justified arrangement. They would have resulted in shorter distances to school and less expense for transportation. The community, however, has been well satisfied with the educational achievements under this plan and does not wish to change. This plan was a forerunner of many that have been adopted in recent years to overcome *de facto* segregation. Other communities have organizational plans that are not widely used or discussed. In many instances the unusual plan may be the result of a building situation, rather than a consideration of educational needs of children. Recognizing that not all organizations can be described, attention will be given to only a few including the more common ones.

Eight-Four Plan

The 8–4 plan is the traditional way of organizing education in the United States. A variant of this was the 7–4 plan in sections of the country where eleven years of public school education were provided. Until approximately 1910, this plan was found very generally. Since that time it has lost ground at varying rates depending upon the growth of the intermediate school or the junior high school concept. The 8–4 plan came under attack principally because it was believed that it provided students too limited a program in grades 7–8. The seventh- and eighth-grade students were thought to be at a period of development when a more varied program and one less repetitious of the elementary subjects should be provided. In the first decades of the present century it was also held that more students would continue in school for a longer period if the break in organization came at some point that did not coincide with the age of fourteen, that was commonly regarded as the end of attendance by large numbers of youth and parents.

In more recent years the 8–4 plan has continued strongest in rural areas, where a more conservative approach to education has been found, and in states with separate administrative units for elementary education. There has also been some support for it on the basis of the belief that under this plan the thirteen- and fourteen-year-old student does not mature socially at a rapid rate. Proponents argue that the seventh grader

is too young to be in a junior high school and too greatly influenced in an undesirable manner by the "mature" ninth-grade students. Despite these arguments that have been rather frequently advanced in recent years, few if any school systems are returning to the 8–4 organization.

It should be noted that in the case of the 8–4 plan as well as in other plans of organization, the kindergarten has been widely provided. The growth of the kindergarten since 1940 has been rapid. However, it has not generally been incorporated into another unit of organization, but rather has remained as a separate unit in our thinking even though it has been housed in nearly all cases in the elementary school buildings. The rapid expansion of preschool opportunities in the 1960s also suggests the need for a re-examination of the organization plan. What shall be the relation of preschool programs to the kindergarten and to grades 1 and 2?

Six-Three-Three Plan

This plan of organization is now the most widespread in the nation. It is found particularly in the urban areas and in states that have accepted the desirability of the junior high school. In some states the junior high school has been encouraged not only through the efforts of educational leaders but also through favorable state aid provisions.

Among the advantages claimed for this plan are enriched provisions for seventh- and eighth-grade students, a junior secondary school of adequate length to develop a good guidance program, opportunities for ninth-grade students to develop leadership capacity, and large opportunity to develop a program related to the needs of young people of this age as a result of being freed from the traditional patterns of both the elementary and senior high schools.

Although the percentage of children in school systems organized in accord with this plan has continued to increase, there have been many criticisms leveled at some of the organizational units of this plan in recent years. These criticisms have pertained to the secondary schools rather than to the elementary. It has been argued that many junior high schools have been "overdepartmentalized," are nothing but little high schools, and that the academic achievement in them has been unsatisfactory. Studies have not supported the charges regarding lower academic achievement, but among the critics there are those who believe that the ninth grade should be in the senior high school to raise the achievement level. As mentioned above, it has also been argued that the seventh- and ninth-grade children are too wide apart in development to be members of the same school.

Recently this plan as well as the 8–4 has also come under attack in the large cities as one which does not facilitate desegregation to the de-

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Six-Two-Four Plan

This plan is found in communities or sections of the country where the 6–3–3 plan is unacceptable because of certain conditions or viewpoints such as the following:

1. Separate elementary and secondary school districts with responsibilities respectively for grades 1–8 and 9–12 are in existence.
2. Four-year senior high schools are believed to offer better college preparatory programs than three-year senior secondary schools.
3. The two-year intermediate school offers the opportunity to develop a better, less departmentalized educational program than the three-year junior high school.
4. Economy can be effected because the two-year school does not need all the special facilities that appear necessary in the three-year junior high school.
5. The three-year school provides too wide a range of ages with resultant undesirable development of students in the seventh grade.

Four-Four-Four-Four Plan
or Four-Four-Three-Three-Two Plan

These plans are not offered as ones which are widely employed at the present time. They are presented, however, to suggest that developments are occurring which may make the emergence of new plans highly desirable. Both of these plans make provision for sixteen years of public education. They incorporate one preschool year, the kindergarten, and two years of junior college into the organizational structure. In many instances these provisions are being made, but in part they remain appendages rather than officially established elements of a structure.

When the preschool and kindergarten are attached to the structure, they would appear to fit well with the first two years of the elementary school. Thus, a four-year institution which would be relatively small and close to the home would result. The second four-year block, including traditional grades 3 to 6 could then be somewhat farther removed from the home and could facilitate desegregation through serving a larger geographical area. The goals of these years may also suggest the desirability of having them in one unit.

It is to be noted that at the top of the structure the junior college is being added at a very rapid rate. A decade ago, only a few states

clearly regarded it as essential, but now there are many. The junior college, however, is not universal in many states, and in some states it serves only limited functions. The next decade, however, will almost certainly see it expand rapidly both in terms of provision for it being made and in terms of having it become multipurpose. It will need to serve increasingly not only as a part of higher education but as a vehicle for a new level of vocational-technical education and as an adult education center. These developments offer an important opportunity for a thorough re-examination of the strengths of various organizational plans.

The extension downward and upward of educational provisions suggests that the old designations such as 6–3–3 and 8–4 will be discarded during the 1960s and 1970s and that new, more comprehensive and accurate terminology will become accepted. Possibly, greater structural variation will be found both within and among districts.

ORGANIZATIONAL GUIDELINES

The complexity of the problem of organization makes the formulation of a number of guidelines desirable. They should be of value either in evaluating an existing organization or in developing an organizational plan. In considering these guidelines, we should keep in mind that no one organization will meet the needs of all communities, that organizational plans have varying potentials, and that regardless of the organizational plan the potential may go largely unrealized. Some of the guidelines that follow pertain to the plan for determining the types of schools to be established; others pertain to the schools within the plan. In general, they refer to the basic units such as elementary and secondary schools, rather than to schools for children with special needs.

1. *The value of any organizational plan must be determined fundamentally in terms of the opportunity that it provides for the development of the desired educational program.* The establishment of any units in an organizational plan may have the effect of suggesting that the school in question is much more different from the other units of the school system than it actually is. Educational needs of children and youth are not basically different. It is a matter of emphasis rather than difference in kind. The needs of the sixth-grade student are far more similar to those of the seventh grader than to those of the child in the first grade, even though he is in the elementary school rather than in the junior high school.

2. *The organizational units need to be understood as instruments through which more adequate provisions can be made for caring for individual differences.* The establishment of formal units of organization

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Spencerport Central Schools, January 7, 1982.

In a mimeographed paper from Spencerport Central Schools, Spencerport, New York, educational advantages and disadvantages of various patterns of grade level organization were discussed. The pros and cons of the following structures are outlined in this article:

- 8-4
- 6-6
- 6-3-3
- 5-3-4

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SPENCERPORT CENTRAL SCHOOLS
SPENCERPORT, NEW YORK

January 7, 1982

I. What are the Educational Advantages and Disadvantages of the Various Patterns of Grade Level Organization?

When the Board of Education last year reviewed the implications of declining enrollment upon building utilization it became apparent that by 1986-87 it would be possible to house any type of grade level organizational structure in the Spencerport Central School District. Hence the Board requested that information pertaining to the educational implications pertaining to building utilization be prepared for its consideration.

To help place this issue in perspective a brief history of school grade organization is attached.

I agree with the comment that most of the reasons for or against a particular organizational format are not supported by research. The major exception is that youth today enters puberty one year earlier than it did fifty years ago - when the junior high school concept emerged!

Last year the Pittsford Central Schools ascertained the experience of other school districts in Monroe County. They reported:

> *School closings and grade level reorganizations have recently taken place in Penfield, West Irondequoit and Rush-Henrietta. Decisions have been made in Webster and decisions are pending in Greece. No single ideal organization has evolved out of the changes in Monroe County. In fact, very few districts have adopted the same total pattern. Of the eighteen districts in the county, only Gates-Chili has exactly the same pattern as Pittsford. The rest feature a variety of patterns, with some parts (but rarely the total pattern) in common. At the elementary level, the following patterns exist: K-2, K-4, 3-4, 5, K-6, K-3, K-5, 4-6. Ten districts in the county have middle schools, eight districts have junior high schools. Fourteen of the eighteen districts have or will have 9-12 high schools. In discussion with district officials, one determines that most organizational decisions were based on factors other than a philosophical position.*

Monroe County superintendents who have been involved in these changes indicate that the adopted organizational product is not nearly as important as the care given to planning and programming the organization. Each superintendent indicates that the adopted pattern in his district has worked well. They agree that much attention needs to be given to the points of discontinuity to insure articulation of program and good communication patterns regarding student needs.

As one reads and reviews the attached list of pros and cons for:

8-4	Grades K-8, 9-12
6-6	Grades K-6, 7-12
6-3-3	Grades K-6, 7-9, 10-12
5-3-4	Grades K-5, 6-8, 9-12
3-3	Grades K-3, 4-6

The key question to consider is:

What educational setting is most appropriate or uniquely suited for students who are no longer children and not yet young men and woman?

Operationally this translates into two questions:

1. Should the sixth grade be in a middle school or an elementary school?

2. Should the ninth grade be in a junior high school or a senior high school?

Other criteria to be considered in reorganizing grade levels in a school system faced with declining enrollment are:

1. What should be the minimum number of sections of a grade level in an elementary building?

2. How important is the concept of the neighborhood school?

3. What will be the impact upon present and probable future attendance area boundaries?

4. What are community expectations or desires?

5. What are faculty expectations or desires?

6. What types of, and how many, classroom spaces need to be provided for special programs? e.g. Triad, NI/ED, Art, Music, Physical Education, BOCES.

7. What are the financial implications?

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[1] For example, see:

1. Tanner, J.M., Growth at Adolescence. Oxford: Blackwell Scientific Publications, 1962.
2. Eichorn, Dorothy H., "Variations in Growth Rate," Childhood Education, XLIV (January, 1968), 286-291.
3. Meredith, Howard V. "Stature and Weight of Children of the United States with Reference to the Influence of Racial, Regional and Socioeconomic, and Secular Factors," American Journal of Diseases of Childhood, LXII (November, 1941), 930-936.
4. Ramsey, Glen V., "The Sexual Development of Boys," American Journal of Psychology, LVI (October, 1943), 217-233.
5. Gesell, Arnold, Frances Ilg. and Louise Bates Ames, Youth: The Years From Ten to Sixteen, New York: Harper and Brothers, 1956.
6. Gordon, Ira J. Human Development: From Birth Through Adolescence, New York: Harper and Row, 1962.

A BRIEF HISTORY OF SCHOOL GRADE LEVEL ORGANIZATION

So fixed a fixture are grades in America's schools it is hard to imagine schools without them. The dame school, conducted in New England kitchens by dedicated, if not very literate teachers, accommodated neighborhood children regardless of age and without grade structure; and so did the one room rural schools that educated generations of Americans. Age grading was first introduced in Boston's Quincy Grammar School in 1848 - the innovation of that age. It grew out of the assumption that students may be logically grouped by age and taught specific blocks of subject matter. A practical reason for grading was that chunks and pieces of knowledge could be transmitted by relatively inexpert teachers to the ever-increasing number of students entering the schools.

The scheme swept across the years and the nation, and has resisted uprooting. Criticism of age grading began as early as the 1860's when some educators charged that grades locked students into rigid learning situations; that each student was expected to learn what the grade-syllabus mandated, regardless of student needs and interests; that grade education was goosestep and mass education; that individual instruction was impossible. Few paid attention.

As populations boomed and torrents of students flowed into the classrooms, authorities were concerned less with what was happening to the individual and more with finding manageable ways to administer the schools. Conformity took over: eight grades of elementary school; four years of high school. School buildings housed elementary grades as local conditions permitted; but the high school plant, usually the town's architectual ornament, remained rigidly a four-year institution.[1]

From 1890-1920, pressure from many diversified groups caused a reappraisal of the traditional 8-4 organizational pattern. These pressures came from the university, advocates of vocational competence, and the school educational community. The university felt there was a lack of standardization and that high school subjects should be taught at an earlier age. Advocates of vocational competence felt that many students need a practical education which would enable them to go into the labor market directly from high school. Therefore, they stressed the need for this program to begin in grades seven and eight. The educational community, faced with critical housing needs at the secondary level, suggested moving one grade out of the high school. Teachers, also saw a possibility of having new and improved special facilities. Reorganization came with the acceptance of the 6-3-3 plan.

The only child-oriented impetus for this change came from G. Stanley Hall. Hall defined the childhood period as gradually terminating at the end of the twelfth year and the transition to adolescence beginning thereafter. Many educators of that period disagreed with his concern with the childhood to adolescence transition. However, they did use his studies to justify reorganizing the schools to accommodate three periods of growth and development: childhood, transition and adolescence. Thus the period of childhood was accommodated in grades K-6, transition in grades 7-9 and adolescence in grades 10-12.

Since the early nineteen hundreds, anthropologists, psychologists, and sociologists have undertaken multi-disciplinary, longitudinal studies of human growth and development. These studies can be categorized roughly as physical development, intellectual development, and personality development.

Dissatisfaction with certain aspects of the 6-3-3 school organization plan plus research in human growth and development provided an excellent foundation for the structuring of a new type of school organization.[2]

Variations came rapidly year by year.

Always there were strong arguments for the rearrangements. Researchers and psychologists had a field day listing educational advantages and disadvantages of this or that plan. Most arguments, even though heavily documented, were either specious or nonsense.

The truth was that not educational enhancement but down-to-earth reasons decided the choice of grades alignment. The most practical were the availability, location, and size of a school plant. Parent wishes, local preference for school size, and operational costs also helped determine which grades would be housed together.

"Actually, what is important is not grade structure. A good teacher and a good program are what count."

Continued research on student needs at different age levels finally revealed an almost irrefutable fact: Boys and girls entering puberty need courses and services not made available to them in traditional elementary grades or high school programs.

Educators then tried to find an educational setting which would be uniquely suited for students who are no longer children and not yet young men and women.

What young adolescents need, researchers reported, is a variety of experiences with people, things, nature and problems; opportunities to explore ideas; a chance to expand their basic skills of expression and computation - all that, plus teachers concerned with helping young minds and bodies develop toward excellence rather than transmitting subject matter and rating youngsters on their academic or athletic prowess.[3]

The latest available data regarding types of organizational plans used by school systems was a study done by the NEA Research Division. They found:

	Percent of school systems by enrollment group	
GRADE COMBINATION	3,000-24,999	300-2,999
6-3-3	36.6%	11.6%
6-2-4	21.3	17.4
8-4	10.4	21.1
6-6	3.7	22.7
5-3-4	11.9	8.7
4-4-4	1.1	2.1
7-5	1.9	1.2
Other	13.1	15.3

1. Ben Brodinsky, "Tell us: What logic puts fifth graders in some junior high schools?" Updating School Board Policies, v. 10, no. 3 (March 1979).

2. Frederick W. Ball, "The Sixth Grade: Elementary or Middle School?" IAR Research Bulletin (April 1973).

3. Brodinsky, ibid.

/fc

8-4 (GRADES K-8, 9-12)

FOR

1. Keeps pupils in the elementary school environment longer.
2. More emphasis could (perhaps would) be given to the traditional so-called fundamentals; the teacher would be with the pupil for the entire day or most of it and thus could provide better instruction and guidance.
3. The gap between elementary and secondary education would come later when the pupil would be better prepared to cope with it.
4. Articulation between elementary and secondary education would be more easily achieved since there would be only one bridge to effect rather than two.
5. "Growing up" socially would occur later.
6. Home-school cooperation might be more easily attained.
7. Schools would probably be nearer the home of the pupil, and transportation problems might conceivably be decreased in grades seven and eight.

AGAINST

1. The curriculum for grades seven and eight might in some instances be much narrower (without or with much less adequate libraries, shops, science rooms, physical education facilities, homemaking rooms, arts and crafts rooms, guidance provisions) and thus would provide for the needs of these pupils markedly less adequately.
2. If an enriched program were attempted, it might under certain circumstances and in a number of schools, call for considerable duplication of special rooms and equipment which would not be utilized fully.
3. The program of activities for grades seven and eight might tend to be very limited and inadequate for pupils in grades seven and eight.
4. Securing of elementary teachers for grades seven and eight would be difficult.
5. The opportunities of pupils in grades kindergarten to six might be seriously interfered with by making provisions for the older pupils; to provide equivalent opportunity, both capital outlay and current expense costs would tend to be considerably greater.
6. Forces early adolescents to interact continually with pre-adolescents.
7. Forces pupils to make a rapid adjustment from elementary to high school.
8. The gap between elementary and secondary education might easily be so wide that it would be extremely difficult to bridge.
9. Adequate guidance and necessary experience to facilitate bridging the gap to secondary education would be more difficult to provide.
10. Denies early adolescents a school of their own and a broader curriculum offering appropriate to their needs.

6-6 (GRADES K-6, 7-12)

FOR

1. Provides secondary program continuity for a longer period of time than K-8, 9-12.
2. Provides a broader range of courses for younger students.
3. Provides earlier competition and break-away from the elementary school.
4. Provides more mature 12-14 year olds an opportunity for interaction with older students.
5. Provides a subject-centered program in the secondary school.
6. Provides specialists to teach courses in the secondary schools.

AGAINST

1. Forces earlier break from elementary schooling than K-8, 9-12.
2. Pressures pupils between 11-14 to place their childhood behind them.
3. Creates larger secondary schools.
4. Creates constant interaction between young adults and early adolescents.
5. Teachers more subject matter than child oriented.
6. Departmentalization means decreased flexibility in exploring various subject areas.

6-3-3 (GRADES K-6, 7-9, 10-12)

FOR

1. Longer stay in one school facilitates better relationships for pupils and parents.
2. Fifth and sixth graders provide appropriate role models for younger students.
3. Provides interaction among greater range of age levels.
4. Maintains neighborhood school concept.
5. Gives early adolescents and young adults schools of their own.
6. Provides for gradual change from self-contained classrooms to complete departmentalization.
7. Is able to offer a counseling program for 7-8-9. For 7-8-9 a better, more appropriate organization of academic studies can be developed.
8. Leadership opportunities are available to 9th graders as opposed to being at the "bottom of the ladder."
9. 6-3-3 enables the school to develop a program of extra-curricular activities and to provide better experiences and leadership for early adolescents.
10. Many ninth graders are not able to accept the social pressure placed on them in a 9-12 school.
11. The academic pressure caused by teachers who are accustomed to working with senior high students and the competition of advanced senior high students is too much for advanced ninth graders.
12. This form of organization is well accepted. Staying with the status quo will not cause much upset.
13. In New York teacher training, teacher certification requirements, and State Education Department regulations [illegible]

AGAINST

1. Ninth graders are physically different than seventh and eighth graders. Two thirds of the girls and one third of the boys in the eighth grade have gone through puberty. All, or almost all, of the ninth grade boys and girls have gone through puberty.
2. A ninth grader is too sophisticated for seventh and eighth grade children who want to imitate ninth graders and grow up too fast.
3. Pressures pupils between 12 and 14 to place their childhood behind them.
4. Possibilities for varied programs in seventh and eighth grades are hedged in by the ninth grade Carnegie unit scheduling requirements.
5. Specialized curriculum offerings tend to make teachers more subject matter conscious than child conscious.
6. When ninth grade is separated from 10-11-12, certain courses and equipment must be duplicated.
7. Limited course offerings, especially for the academically talented and gifted.
8. 10-12 have fewer course offerings because of lack of 9th grade.
9. Sometimes a junior high school is a "little high school" and not a school with its own identity; it has "junior" status.
10. Some parents and pupils feel that a junior high school "doesn't count," or at least not the 7th and 8th grades.
11. Some sixth grade students can be negative role models for younger children.

5-3-4 (GRADES K-5, 6-8, 9-12)

FOR

1. Research findings consistently show that today youngsters enter adolescence a year earlier than they did 50 years ago due to better nutrition and improved socioeconomic conditions.
2. Student ages in a 6-7-8 school more nearly parallel the period of human growth and development between childhood and adolescence called transcendence.
3. Research indicates children are in pubescence between ages 11 and 13.
4. Groups pupils who are more alike than either elementary or secondary age pupils.
5. This age group needs personal attention which they do not receive sufficiently in any of the other organizations. They are at an awkward stage and need to be together with excellent teacher personnel.
6. They are at an academic age where they need reinforcement and extension of skills through application.
7. Exposes pupils to various areas of specialization at an earlier age on an exploratory basis. Specialist would be available to help sixth graders branch out easier than they can in an elementary school.
8. Provides sixth graders the opportunity to used specialized facilities such as science labs, home economics rooms, and industrial arts shops.
9. Sixth graders need greater stimulation and departmentalization of teaching and special facilities and equipment, e.g. shops and labs, to advance according to their ability.
10. Facilitates greater flexibility in grouping children for instructional purposes.

AGAINST

1. Sixth graders are better off in the protective environment of an elementary school.
2. 6th graders would lose the benefit of an elementary school program.
3. Sixth graders not available for safety patrol, student council and other leadership roles.
4. Sixth graders are too young to be pushed very hard academically or socially.
5. The elementary school challenge of working with children at the sixth grade level would be missing.
6. 6-7-8 Programs often are very similar, or identical to 7-8-9 programs.
7. There might be a scaling down of standards in a K-5 school (especially in chorus, band, and physical education) because the pace setting sixth grade is absent.
8. This may decrease the proportion of male teachers in fourth and fifth grades.
9. Music program might have to be extended into third grade in order to have a 3 year program in building. Many 3rd graders are too young for music.
10. Removes the leadership role carried by ninth grade students.
11. The difference between age 14 (ninth grade) and age 18 (twelfth grade) is too great and makes it very difficult for ninth graders to adjust to the new school.
12. Ninth graders are too young, immature to be placed with senior high students.
13. Administrative techniques and procedures would have to change.

5-3-4 (GRADES K-5, 6-8, 9-12)

FOR (continued)

11. Provides orderly transition from elementary methods and materials to secondary methods, materials and complete departmentalization.
12. Can provide a school with an identity of its own which enhances pupils sense of belonging.
13. Reduce emphasis on parties, dances and competitive athletics.
14. Children can have a fresh start in a new school one year earlier. That is, they can detach themselves from old labels, make new friends, etc.
15. With ninth graders in a separate building, the "growing-up" process will be slowed down.
16. The leadership advantages we give to sixth graders could be given to fifth graders.
17. Removes the restraint of organizing part of the school to meet high school graduation requirements (Carnegie units).
18. A transitional school should have at least three grade levels in it to allow sufficient time for the students to develop an identity with the building and for the faculty to know and work with the students.
19. Today's ninth graders are more mature, sophisticated, than those of 50 years ago, when the junior high school was created, and can handle and profit the high school and extracurricular pressures.
20. The end of eighth grade is a natural break. Many ninth graders are mature enough to fit in and profit by the high school program. They feel like and want to be senior high school students.

21. Many ninth graders need a greater variety of course offerings than is available in a junior high school.
22. Provides opportunity for advanced ninth graders to take higher level courses without travelling to another school.
23. Affords opportunity for a broader curriculum offering in the high school.
24. Facilitates continuing and articulation of educational programs 9-12 in all areas, curricular and co-curricular including athletics.
25. Places the entire high school program and Carnegie unit requirements in one building.
26. Earlier referrals can be made for remediation or for acceleration.
27. Facilitates more efficient use of staff.
28. College admission and state high school graduation requirements are based upon the assumption of a 9-12 program.

(GRADES K-3, 4-6)

FOR

Larger pool of same age group to draw from for instructional grouping purposes.

Would provide for greater specialization-focus of teaching and administrative skills.

Minimize spread of unrest from intermediate children to primary children.

There is a shorter time span between planned "school changes" for each student.

More efficient staffing ratios because of larger pool of students at a grade level.

AGAINST

1. Emphasizes curricular differences between grades 3 and 4.
2. Role modeling by intermediate children for primary children would be eliminated.
3. Eliminate the opportunity for cross grouping from lower levels to higher levels and vice versa.
4. Decreases communication among past, present and future teachers of the pupils.
5. Increased transition, articulation, coordination problems.
6. Diminishes the opportunity for siblings and neighborhood friends to ride and to walk to school together.
7. An increase in transportation costs is likely.
8. Loss of neighborhood schools.

EXHIBIT 4

Intermediate vs. Middle Schools: An Analysis of the Relative Costs in the Montgomery County Public Schools

Summary

This report was prepared by Dr. John Riew of Pennsylvania State University as part of the Middle School Evaluation Study conducted by the Department of Educational Accountability, Montgomery County Public Schools. The study found that, in general, the per pupil cost differences between middle and junior high schools are not very great. Differences brought about by adjustments to school utilization rates through school closures are larger than the differences due to the supplementary middle school program costs.

MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

INTERMEDIATE VS. MIDDLE SCHOOLS: AN ANALYSIS OF THE RELATIVE COSTS IN THE MONTGOMERY COUNTY PUBLIC SCHOOLS

Dr. John Riew
Pennsylvania State University

This report was prepared by Dr. John Riew of Pennsylvania State University as part of the Middle School Evaluation Study conducted by the Department of Educational Accountability, Montgomery County Public Schools, Rockville, Maryland. The opinions expressed herein are those of the author, and do not necessarily reflect the views of the Montgomery County Public Schools.

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EXECUTIVE SUMMARY

INTERMEDIATE VS. MIDDLE SCHOOLS: AN ANALYSIS OF THE RELATIVE COSTS - IN THE MONTGOMERY COUNTY PUBLIC SCHOOLS

In the evaluation of middle schools mandated by the Board of Education in Resolution No. 827-77, the question of middle school costs is important. In the Montgomery County Public Schools (MCPS) middle school program, when sixth graders are shifted from elementary schools into middle schools, they are given a somewhat broader curriculum similar to secondary school students, more funds for texts and materials, and the staff in their schools are given supplementary allocations for the interdisciplinary resource teacher positions planned as part of the middle school program. In the Middle School Evaluation: Year 1 Progress Report (March, 1980), the costs of these increments in staff, materials, and transportation were estimated. Based on these cost increments, an estimate was made of the cost of shifting the entire school system to a middle school structure from its current structure of 7-8 and 7-9 junior high schools. Those data suggested that the cost of shifting sixth graders throughout MCPS (based on 1980 salaries and enrollments) would be approximately 1.55 million dollars. Based on a sixth grade enrollment at that time of 7,481, this amounted roughly to an additional $208 per sixth grader for converting to a middle school structure.

However, from what is known about the economies of scale in education, schools which are operating at less than their optimal capacities are more costly per pupil than schools functioning near their enrollment capacities. Since most schools in MCPS are operating far below their maximum utilization rates, the effect of this condition is important to consider when estimating the costs of changing the school grade structures. This consideration is equally relevant for estimating school costs when enrollments change due to other situations such as school closings. Thus, in order to provide a more appropriate estimate of the cost differences between middle and junior high schools, a method was needed not only to identify the costs of materials, textbooks, and transportation, but also the staff costs attributable to school underutilization itself. Dr. John Riew, professor of economics at Pennsylvania State University, in collaboration with Dr. John Larson of the Department of Educational Accountability (DEA) staff, developed an econometric model for estimating school costs in this manner.

This cost report is limited to examining the operating costs of the four middle schools and their feeder network of 15 elementary schools. The primary objective of this study was to compare, through the use of an econometric model of school costs, the estimated operating costs of this set of schools under four simulated conditions:

Present Condition:	K-5/6-8 middle school structure with no closings
Alternative 1:	K-6/7-8 junior high school structure with no closings
Alternative 2:	K-5/6-8 middle school structure with three elementary closings
Alternative 3:	K-6/7-8 structure with one junior high school closing

The cost estimates for staff and utility costs, taking into consideration school underutilization costs, middle school program supplements, and administrative savings from school closings, are indicated in Table E-1.

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TABLE E-1

Estimated Costs, Including Staff, Utilities, Middle School Program Costs, Underutilization Costs and School Closing Savings, for Alternative Grade Structures and School Closing Conditions

School Level	Number of Schools	Number of Pupils	Staff Costs	Utilities Costs	Total Costs	Comparisons With Present Costs: Total	Comparisons With Present Costs: Per Pupil
Present Condition: K-5/6-8 No Closing							
Elementary	15	6,090	$ 8,781,982	$496,053	$ 9,278,035		
Middle School	4	3,369	5,199,932	312,276	5,512,208		
Total	19	9,459	$13,981,914	$808,329	$14,790,243	---	---
Alternative 1: K-6/7-8 No Closing							
Elementary	15	7134	$10,050,663	$496,053	$10,546,716		
Junior High	4	2325	3,951,587	312,276	4,263,863		
Total	19	9,459	$14,002,250	$808,329	$14,810,579	$ 20,336 more	$ 2 more
Alternative 2: K-5/6-8, Close Three Elementary Schools							
Elementary	12	6,090	$ 8,350,075	$389,864	$ 8,739,939		
Middle School	4	3,369	5,199,932	312,276	5,512,208		
Total	16	9,459	$13,550,007	$702,140	$14,252,147	$538,096 less	$57 less
Alternative 3: K-6/7-8, Close One Junior High School							
Elementary	15	7,134	$10,050,663	$496,053	$10,546,716		
Junior High	3	2,325	3,362,452	243,801	3,606,253		
Total	18	9,459	$13,413,115	$739,854	$14,152,969	$637,274 less	$67 less

Several conclusions appear justified from the results. First, assuming no school closings in this network of schools, the middle school organization costs essentially the same as the 7-8 junior high school organization. The middle school organization costs $20,336 (or about $2.00 per pupil) less across the K-8 network of 9,459 pupils. Since 1,044 sixth graders are receiving additional services in this condition, the present model appears to offer more value than would changing the middle schools to 7-8 schools without any closings.

Second, under either a middle school or 7-8 junior high school organization, closing underutilized schools results in substantial savings. By closing three K-5 elementary schools under the middle school organization, there is a projected savings of $538,096, or $57 per pupil for the entire network. By converting the middle schools to 7-8 schools and closing one of them, there is a projected savings of $637,274 or $67 per pupil across the K-8 network of schools.

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Third, in comparing the two school closing alternatives, the operating cost difference between middle and 7-8 junior high school structures is about $10 per pupil. However, the total staff costs for middle schools in the table above include $133,835 for interdisciplinary resource teacher positions, and extra funds to finance the sixth graders' textbooks, materials, and transportation at the secondary school level. These supplemental funds amount to $14 per pupil across the K-8 network. Thus, approximately $4 (27 percent) out of $14 per pupil middle school program increment, has been recovered through more efficient school utilization in the K-5/6-8 grade structure.

In general, the per pupil cost differences between middle and junior high schools are not very great in this network of schools. Differences brought about by adjustments to school utilization rates through school closures are larger than the differences due to the supplementary middle school program costs. It should be noted that the per pupil costs for the various alternatives are specific to this network of schools and cannot be generalized to MCPS as a whole. For any given network of schools, such an analysis may yield somewhat different cost-efficiency figures. On the other hand the method of cost analysis used here is directly applicable to determining the school costs for any given set of schools under any specific enrollment pattern, such as the comparisons required for other school closing decisions.

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EXHIBIT 5

Summaries of Selected Research Studies
on the Effects of Different Grade Organization
on Students and Parents

Austin, J.C. A Comparative Study of Two Forms of School Organization For the Early Adolescent in Terms of Pupil Achievement and School Adjustment. (Doctoral Dissertation, University of Houston, 1967.)

The purpose of this study was to compare a newly organized (5-3-4) school structure with a traditional (6-3-3) school structure to measure student academic achievement and adjustment. No conclusive differences between the groups in achievement as measured in grade 7 were found. Differences in achievement factors in grades 9 and 10 favored the control group. There were no significant differences in attendance, dropout rate, and cocurricular participation before grade 10. The parent's questionnaire indicated the 5-3-4 program was superior in all categories. High socioeconomic attendance may have affected the results for this part of the study.

Baker, L. A Study of Selected Variables in a Change From A Junior High School Organization To A Middle School Organization. (Doctoral Dissertaion, Syracuse University, 1972.)

The purpose of this study was to determine the differences in pupil achievement, attitude, intelligence, teacher attitude and organizational climate in a change from junior to middle school organization. Study conclusions specifically relating to middle school organization include:

- improved teacher attitude
- trend toward open climate
- healthier student attitude
- higher academic achievement
- no change in I.Q.

Beauchamp, Marian. A Study of Selected Variables in a Change From A Junior High School Organization To A Middle School Organization. (Doctoral Dissertation, Syracuse University, 1972.)

The study examined the effects on student achievement of changing school organizational patterns from junior to middle schools. Student and teacher attitudes, student achievement and intelligence, and organizational climate were assessed. It was found that pupils in the middle school had:

- better mental health and improved attitude toward school
- improved achievement
- a marked change toward openness
- improved teacher attitudes

In addition, it was reported that seventh graders were affected the most by the change.

Blyth, D., Simmons, R., and Bush, D. "The Transition lnto Early Adolescence: A Longitudinal Comparison of Youth In Two Educational Contexts." Sociology of Education, 51 (July, 1978), pp. 149-169.

This study examined the transition into 7th grade within two different education contexts - K-8 and K-6 school structures. Five areas of social and psychological development including parent-peer orientation, participation in extracurricular activities, early dating behavior, the value of different personal traits, and the individual's self-esteem were examined. The study found:

- 6th graders showed different types of behavior and endorsed different values depending upon the type of school attended.

  For example: K-8 students were more influenced by peers, were victimized more, and preferred to be with their close friends. K-6 students were more academically oriented and internalized a greater sense of responsibility.

- Differential changes in students' perception of their environment, their self-image, their participation in extracurricular activities, and their chances of being victimized were reported for in these two groups.

  For example: Students who had attended K-8 schools became increasingly more positive about themselves, participated in more activities, and felt less anonymous than students who had attended K-6 schools. The study concluded that additional research was needed to further identify the causes and consequences of these differences in socialization experiences and their implications for youth.

Bryan, C., and Erickson, E. Structural Effects on School Behavior: A Comparison of Middle School and Junior High School Programs. Mimeographed paper from Grand Rapids Public Schools, 1970.

The purpose of this research project was to determine if the implementation of "middle school concept" would create an organizational structure or social context that would enhance relationships both within and between the staff and student body. Study findings concluded that the West Middle School was generally functioning in accord with its basic philosophy. Further, the study concluded that the implementation of the middle school concept, generally speaking, had a positive impact on parents, teachers and peer group influence as compared to the traditional junior high program. However, the middle school organization did not result in any more positive effects on student satisfaction with the school nor upon student achievement.

Glissmeyer, C.H. "Which School for the Sixth Grader, the Elementary or the Middle School?" California Journal of Educational Research, XX (September, 1969), pp. 176-185.

Throughout this article various excerpts from previous studies relating to the evolution and purpose of middle schools are introduced. A study conducted by Donald Eichhorn (1966) compared over a one-year period, 1966-67, the academic achievement of 6th grade pupils in modified-departmentalized and a self-contained elementary and middle schools. No conclusions were reached in assigning an overall superiority to either type of organizational or grouping arrangement. It was concluded that other aspects (social adjustment, self-concept, educational facilities, instructional programs, etc.) in addition to achievement need to be analyzed for a more comprehensive study.

Livingston, A.H. "Does Departmental Organization Affect Children's Adjustment?" The Elementary School Journal, (Jan. 1961), pp. 217-220.

This article summarizes a study conducted by Fred Broadhead entitled "Pupil Adjustment in the Semi-Departmental Elementary School" dated April 1960. Personal and social adjustment was measured in 831 5th graders who had experienced semi-departmental organization in Tulsa public schools. Study results were not conclusive. Semi-departmental organization did not help or hinder pupil personal and social development.

Rankin, H.S. A Study of the Pre- and Post-Attitudes and Academic Achievements of Students in Grades 5 through 10 in a Change From A Junior High Organization To A Middle School Organization in A Suburban School System. (Doctoral Dissertation, Syracuse University, 1969.)

The purpose of this study was to determine the differences in attitudes and academic achievement in students who changed from a junior to a middle school arrangement. Attitudes of students in the middle school arrangement were demonstrated to be healthier than junior high students. Academic achievement was also found to be somewhat higher in middle schools.

Strickland, H. A Study of Selected Variables in a Change From A Junior High School Organization To A Middle School Organization In A Northeastern Arkansas City. (Doctoral Dissertation, Ball State University, 1977.)

The purpose of this study was to determine differences in academic achievement, attitude toward school and self-concept in 7th and 8th grade students who changed from junior to middle school in Jonesboro, Arkansas. Conclusions drawn from findings include:

- junior high students had higher scores on achievement tests
- junior high students had a slightly higher degree of negative feelings toward school than did middle school students
- attitude and self-concept were unaffected by the reduction of "inappropriate" social and physical activities
- little change in instructional procedures of teachers were found

Summers, A.A., and Wolfe, B.L. "Which School Resources Help Learning? Efficiency and Equity in Philadelphia Public Schools." IRCD Bulletin, XI (Summer, 1976).

This study addressed how student achievement growth can be increased through school resource allocation. Findings were drawn from a sample of students observed over a few years. The study found that all types of students in junior high school did better if they went to a school which was part of an elementary school. Additionally, being in an elementary school in the 8th grade increased pupil achievement growth by 4.3 months.